

GEORGE ENGELMANN
BOTANICAL NOTEBOOKS

Pagination Note:
Since many of the items lack a specific page number, the page number displayed online refers to the sequentially created number each item was given upon cataloging the materials.

V. *Aubletia*

1-8

bracteosa

urticifolia

paniculata

stricta

angustifolia

bracteosa-urticifolia !
urticifolia - *bracteosa* !

paniculata-urticifolia !

stricto-urticifolia !
urticifolia - *stricta* !
stricta - *paniculata* ?

stricto-angustifolia !

125

Verbenaceae



0
cm

1

2

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4

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10

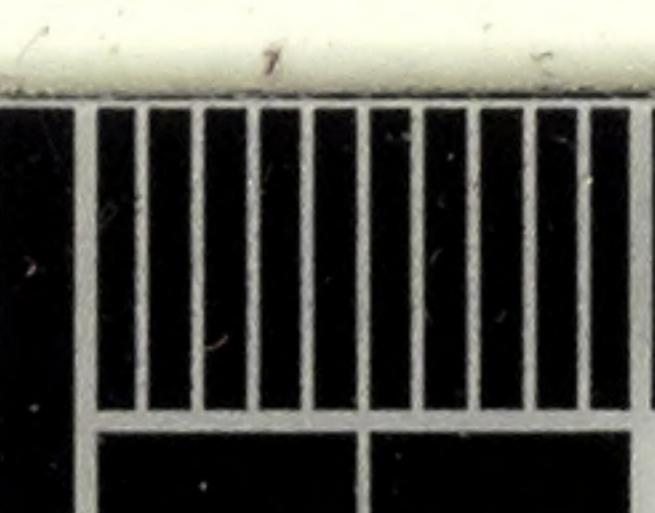
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MISSOURI
BOTANICAL
GARDEN

4266

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS



0
cm

1

2

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10

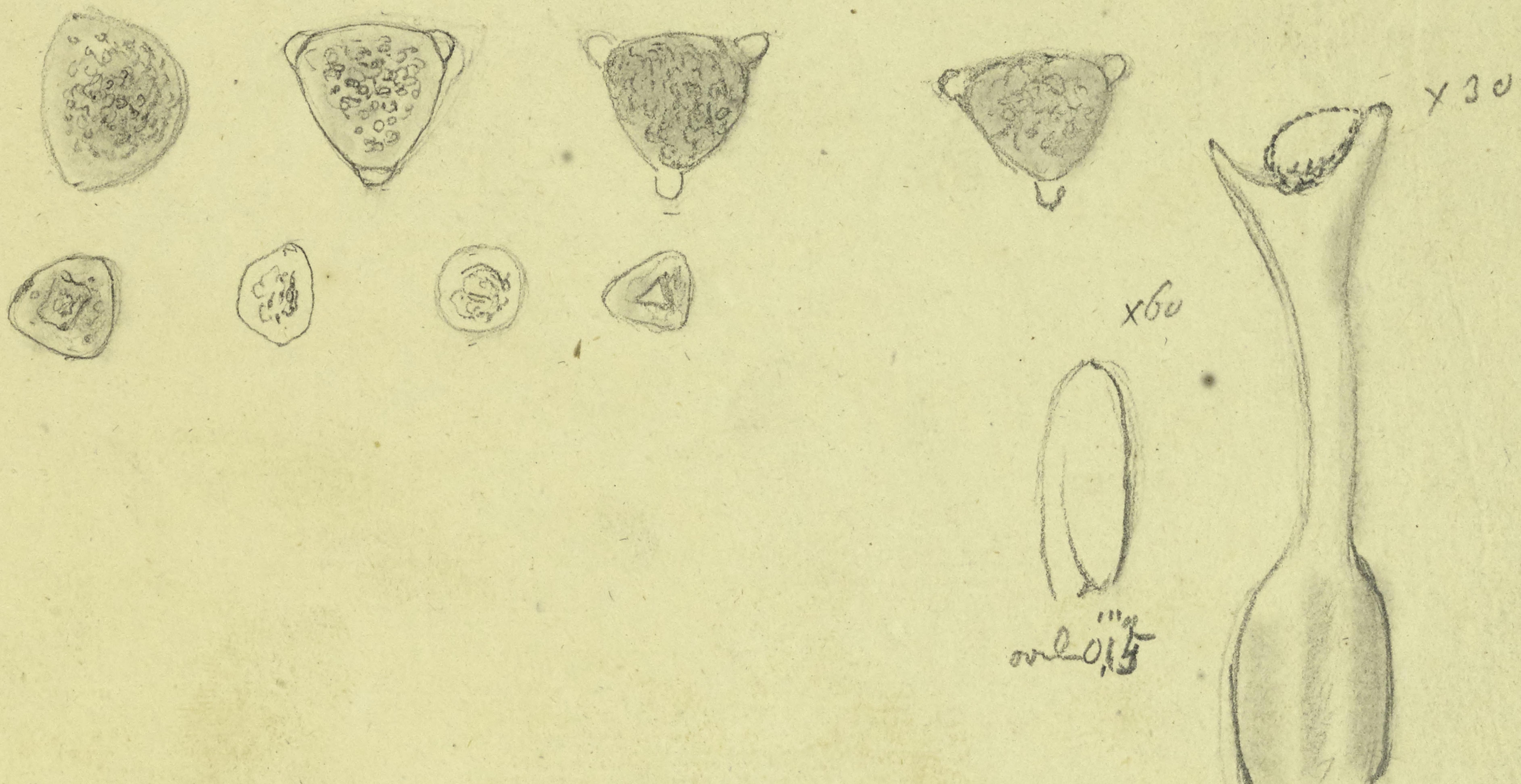
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Aug. 1859 412 X

Verbena hybris
strict - verticif. 0.016 - 0.017 Aug. 59.
Pollen 0.0185 mm, empty 0.008.



very few perfect pollen grains
anthers often green, empty
often withering before opening of flower



0 1 2 3 4 5 6 7 8 9 10
cm

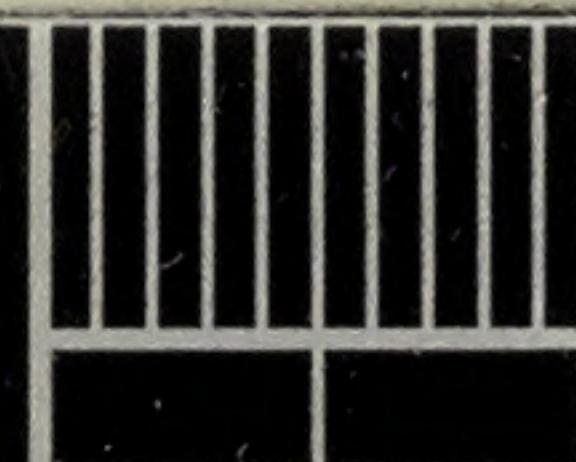
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0 1 2 3 4 5 6 7 8 9 10

cm

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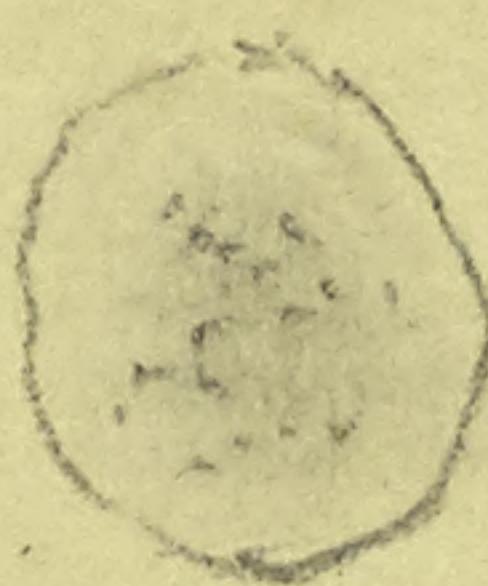
Aug. 1859

x 420

ustrivatives bonitosa

x 30

$\frac{30}{8} 59$



the only rather
regular Pollen
grain seen



scarcely any perfect pollen grains



0 1 2 3 4 5 6 7 8 9 10

cm

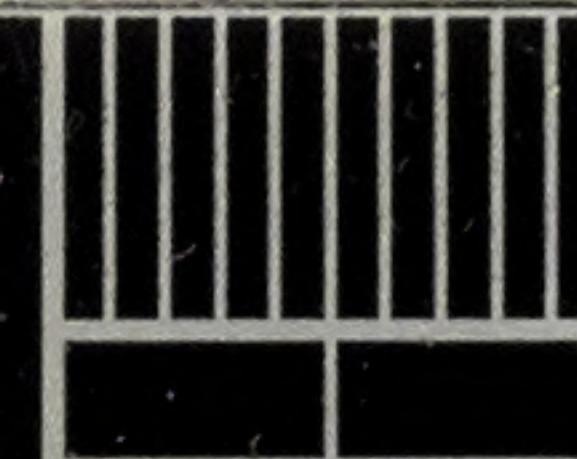
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0 1 2 3 4 5 6 7 8 9 10
cm

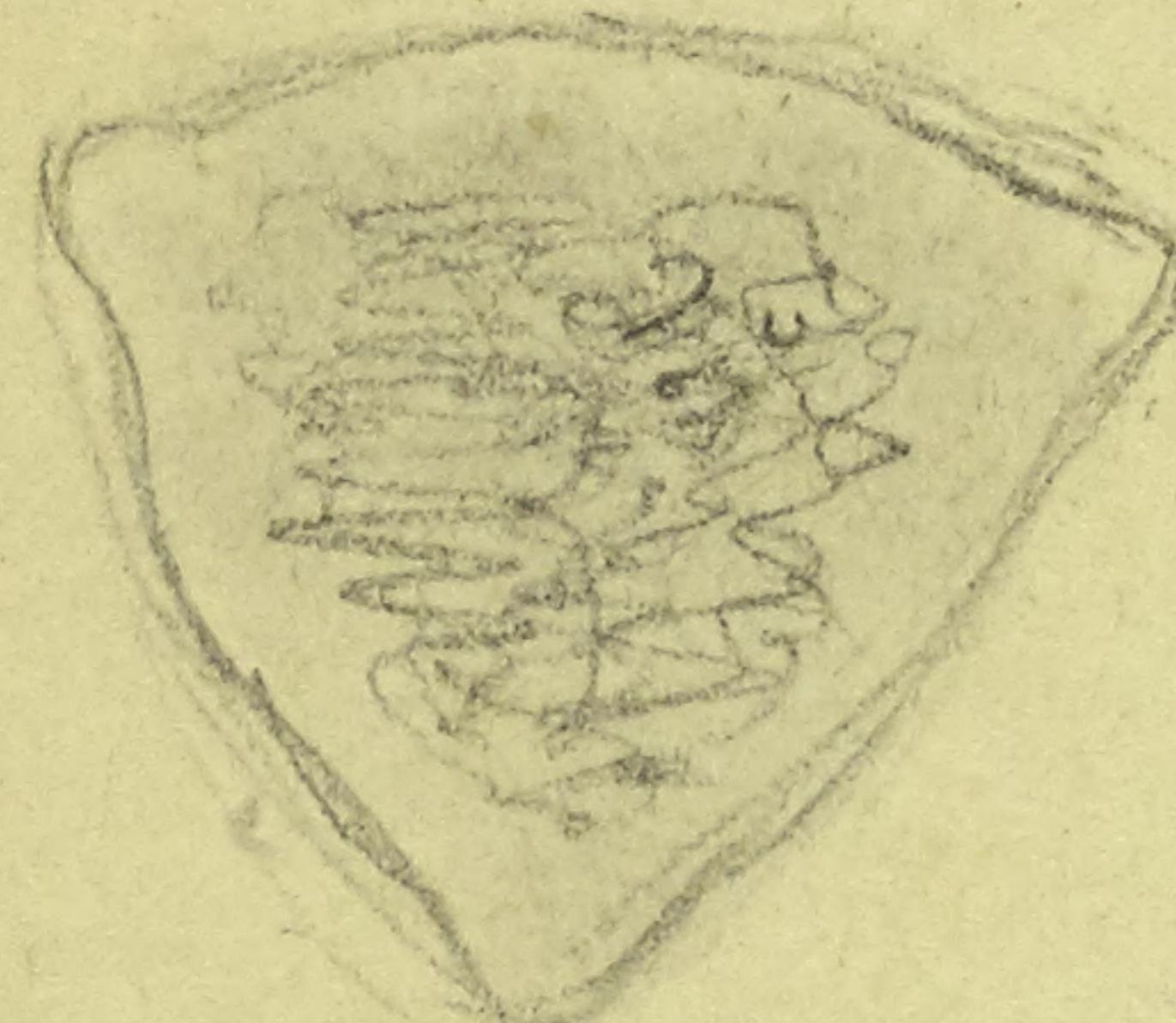
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Aug. 1859 x 412

Verbena stricta



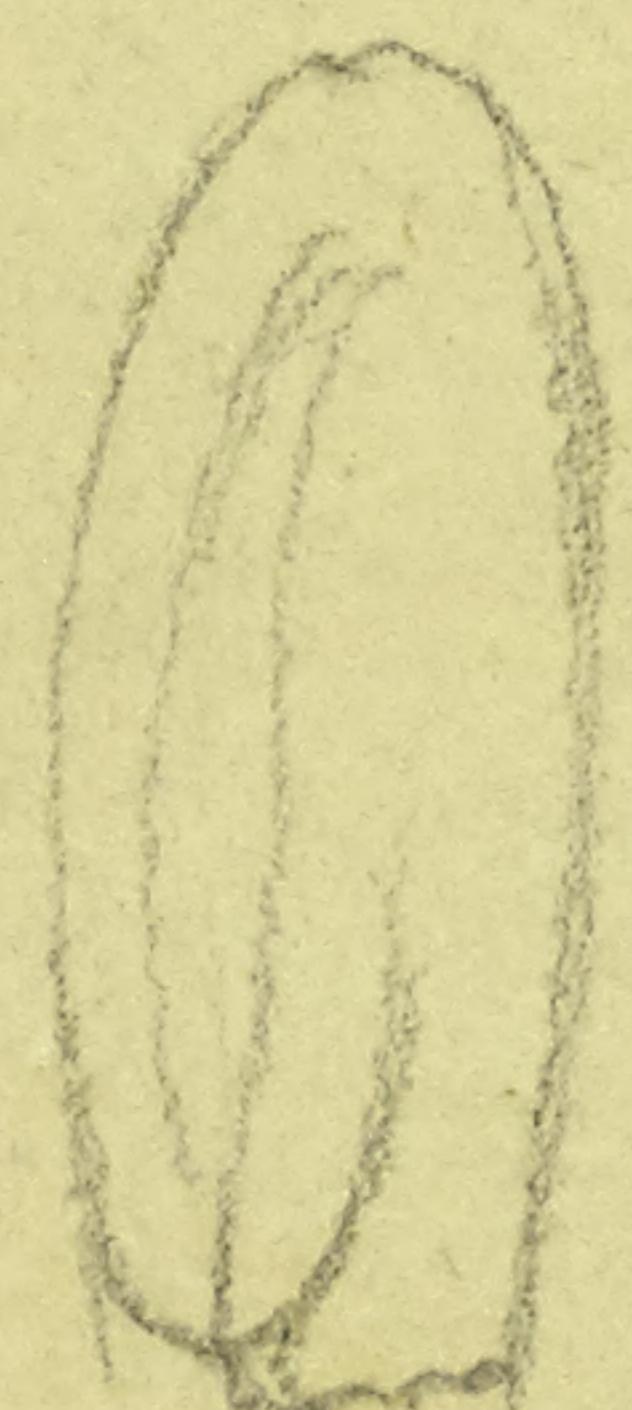
x 154

x 412



usual
size

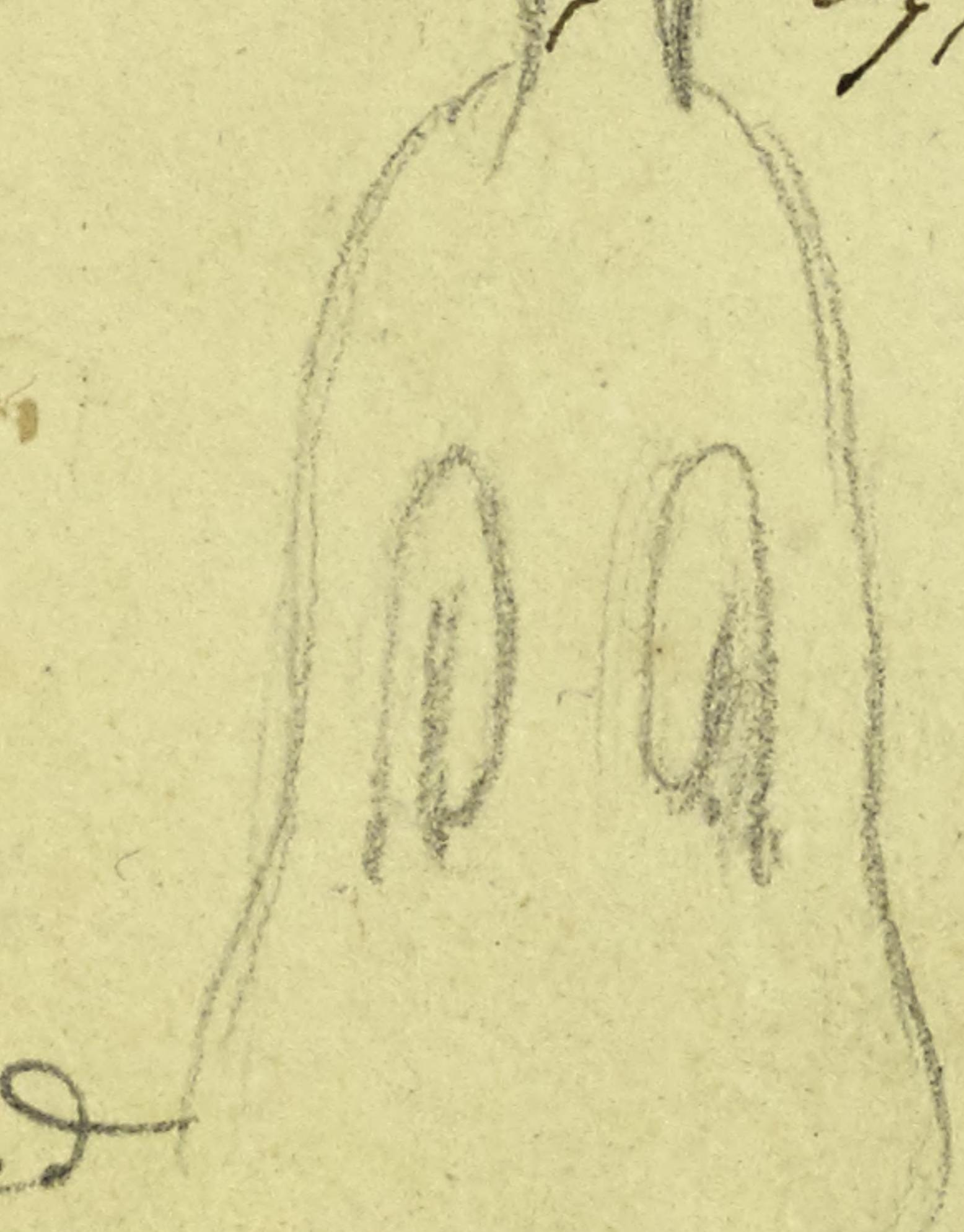
x 60



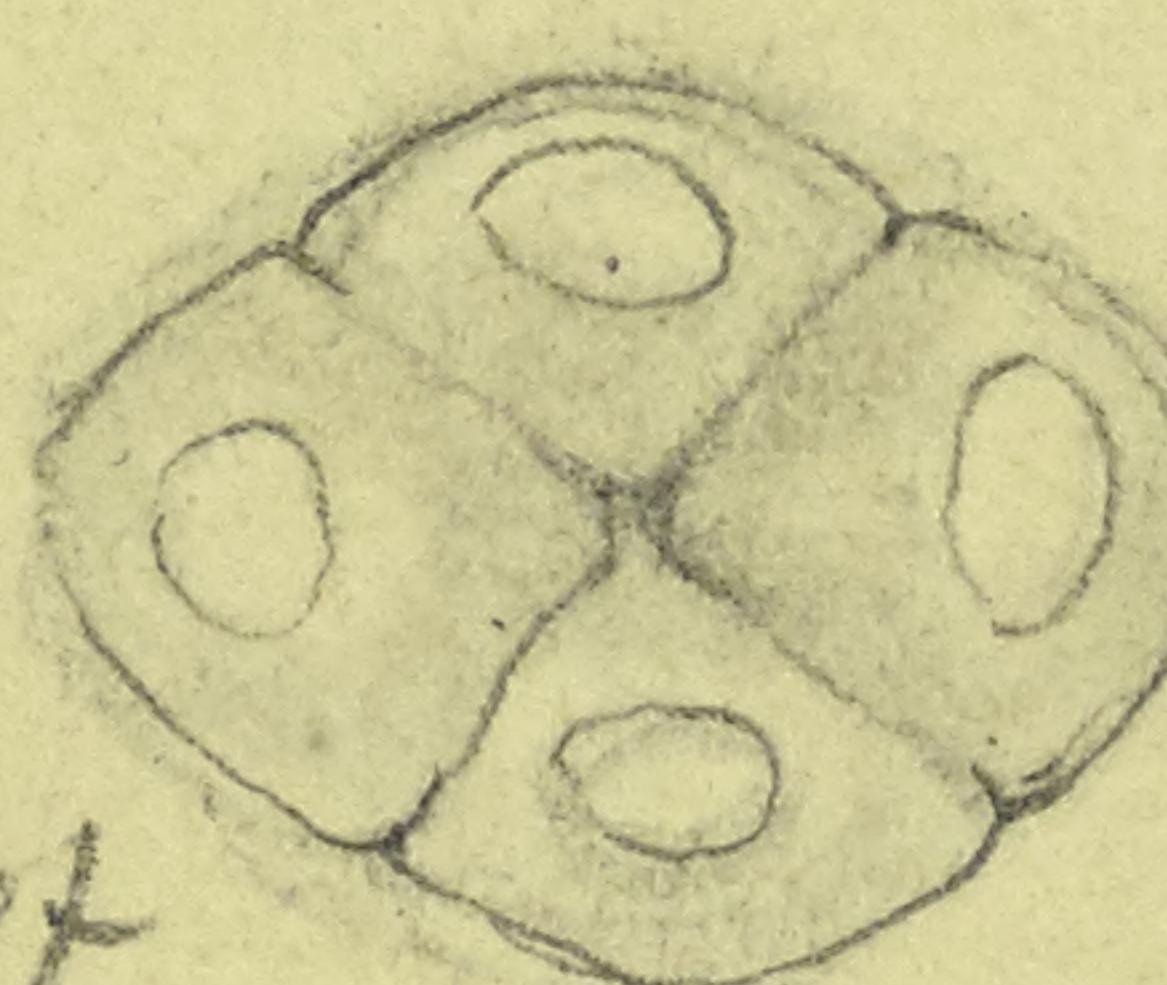
ovules 0.15 - 1/8. 0.20

Corolla 10 - 11 mm long tube
limb 10 mm wide

same after
the use of sulph
acid barrel
at the corners
contracted, crusty, brown



sort of
crust



biters



x 30

towards
upper
lip



x 30

toward lower
lip



0
cm

1 2 3 4 5 6 7 8 9 10

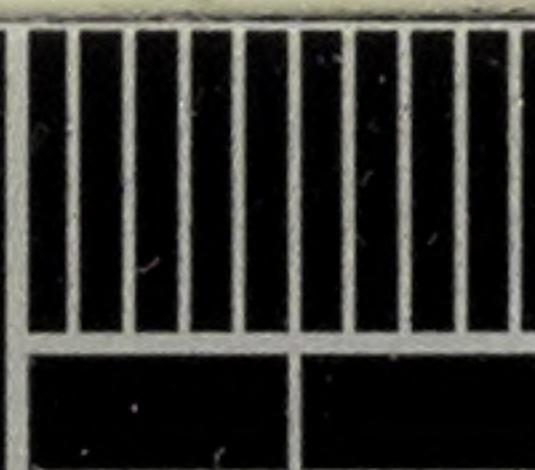
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0 1 2 3 4 5 6 7 8 9 10

cm

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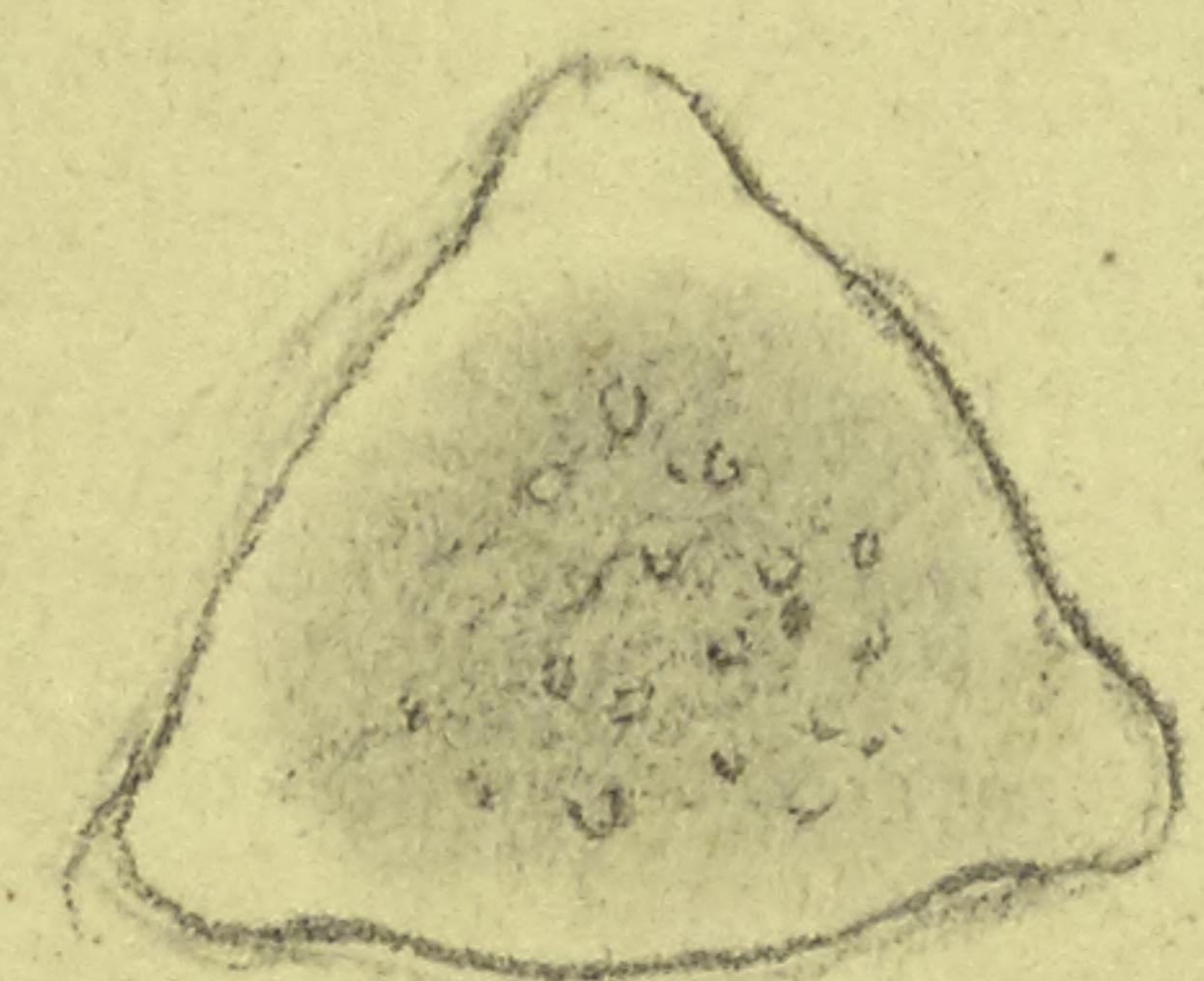
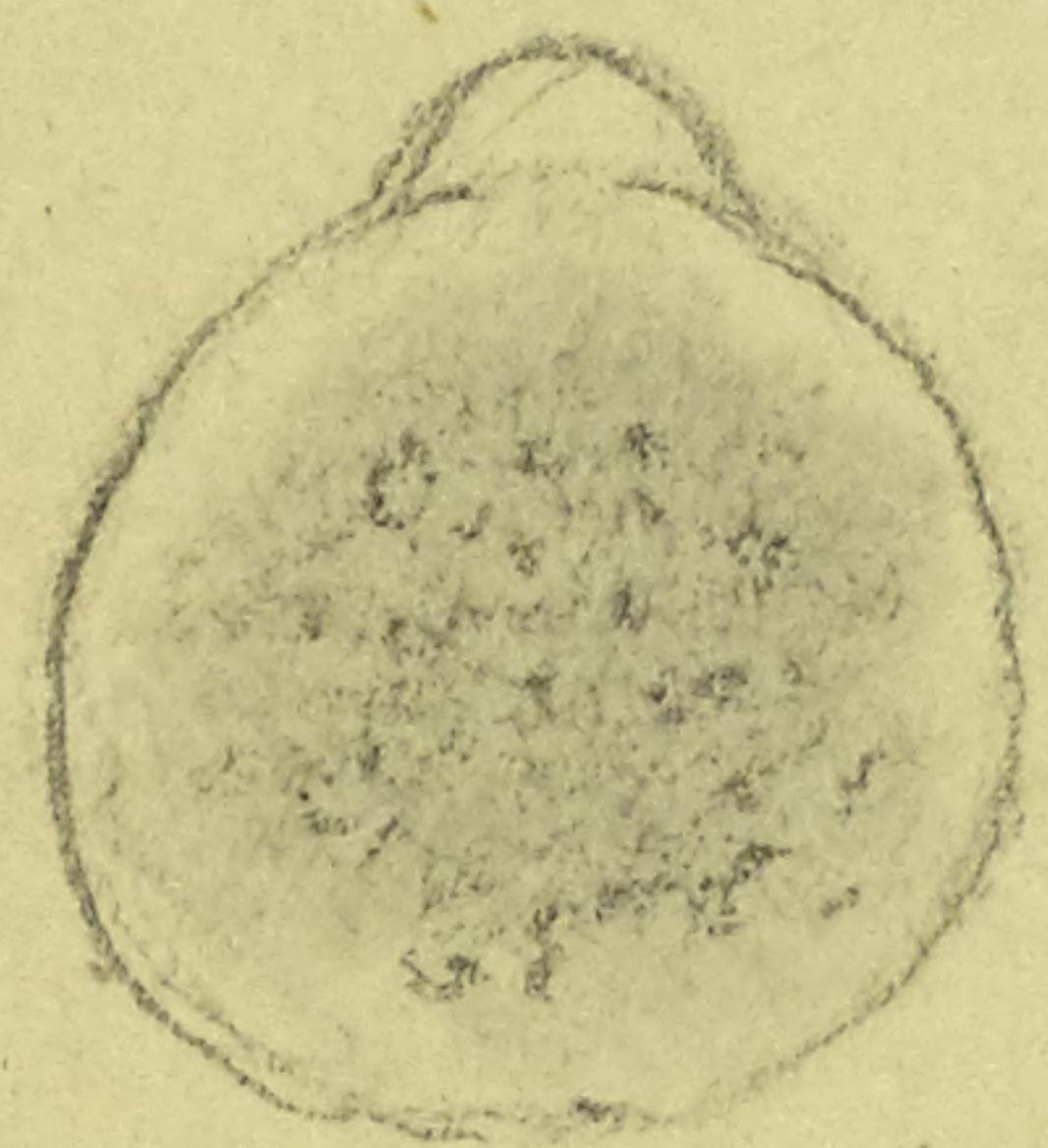
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Aug. 1859

× 412

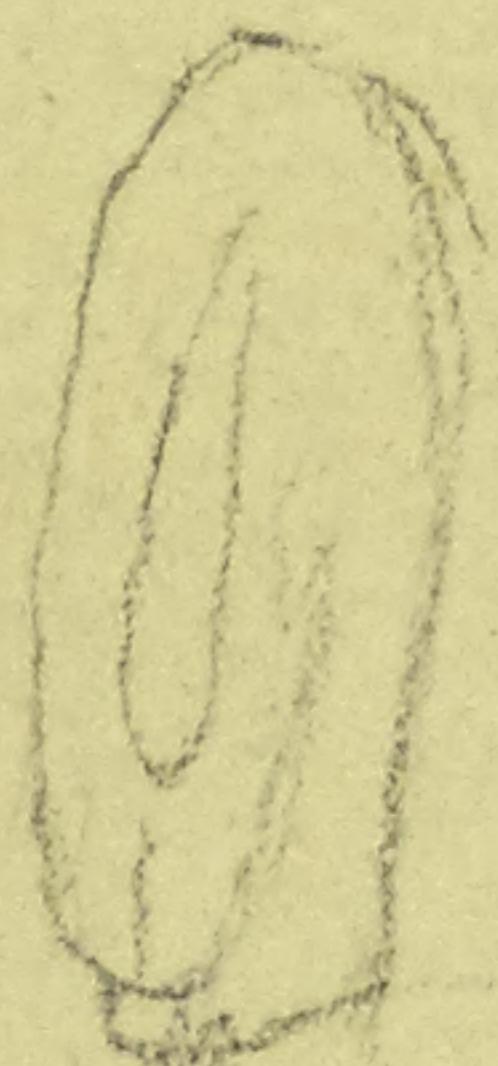
Veronica penicillata

× 30



pollen grains 0.020 line
diam.

× 60



Tube of flower 2 lower thirds with short hair pubescent, upper
staminiferous third naked; bluish horizontal hair closing the
faux, limb naked



0 1 2 3 4 5 6 7 8 9 10

cm

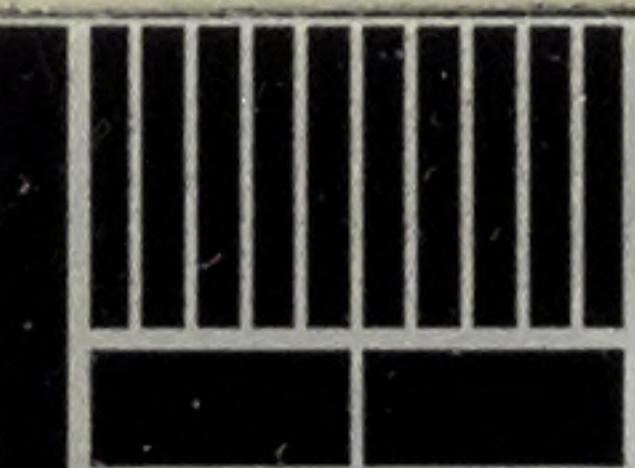
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0 1 2 3 4 5 6 7 8 9 10
cm

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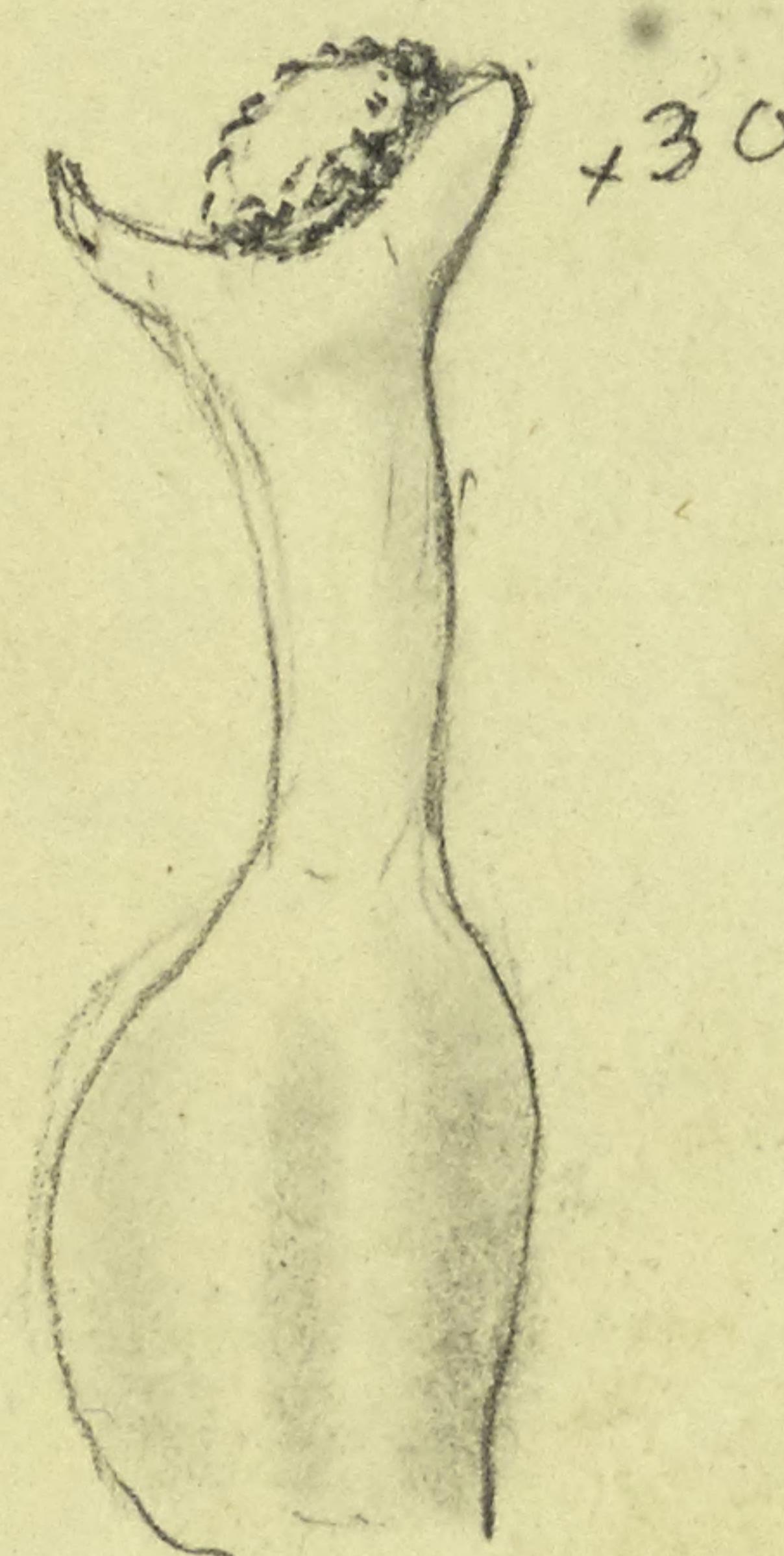
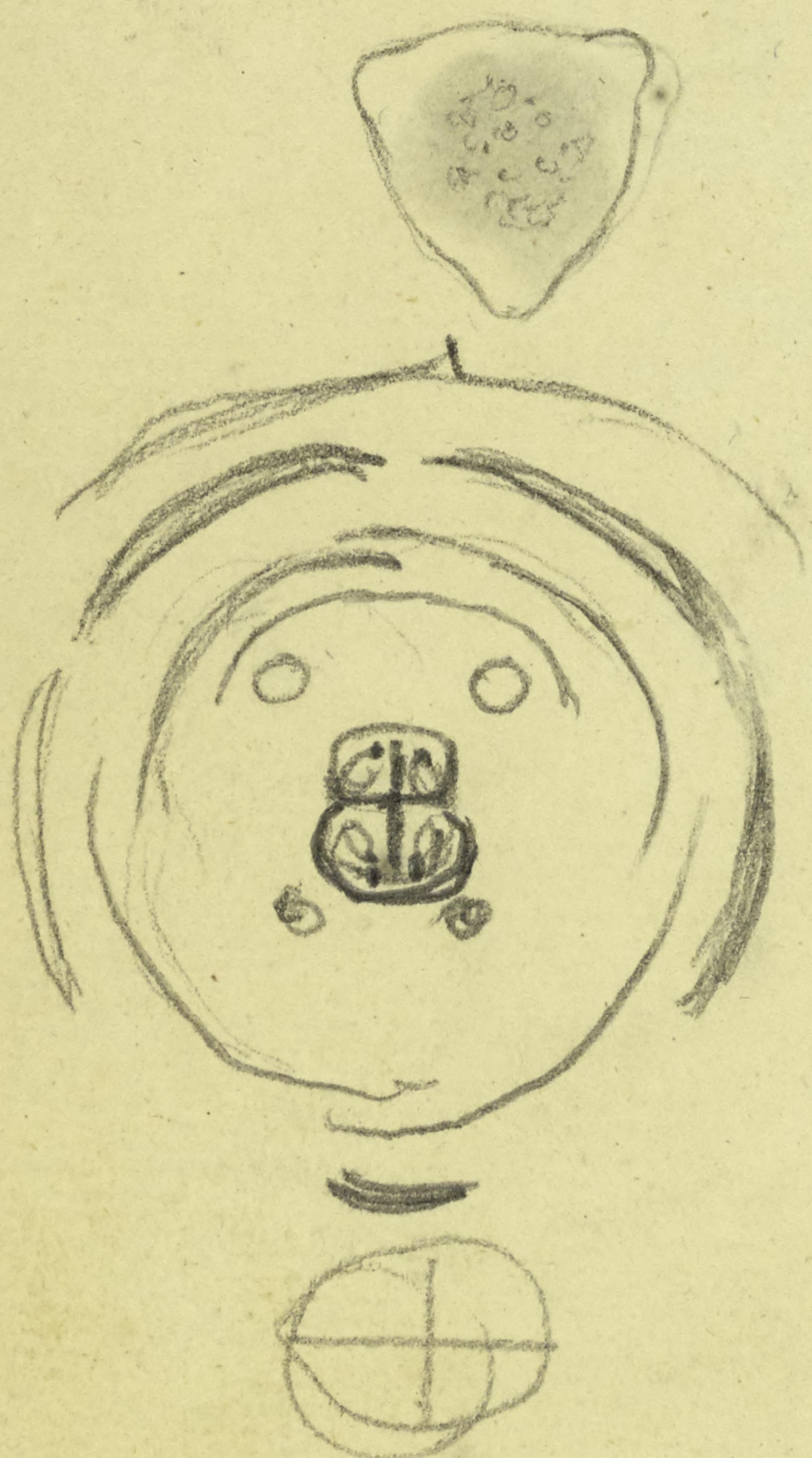


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Aug. 1879

verbena urticifolia

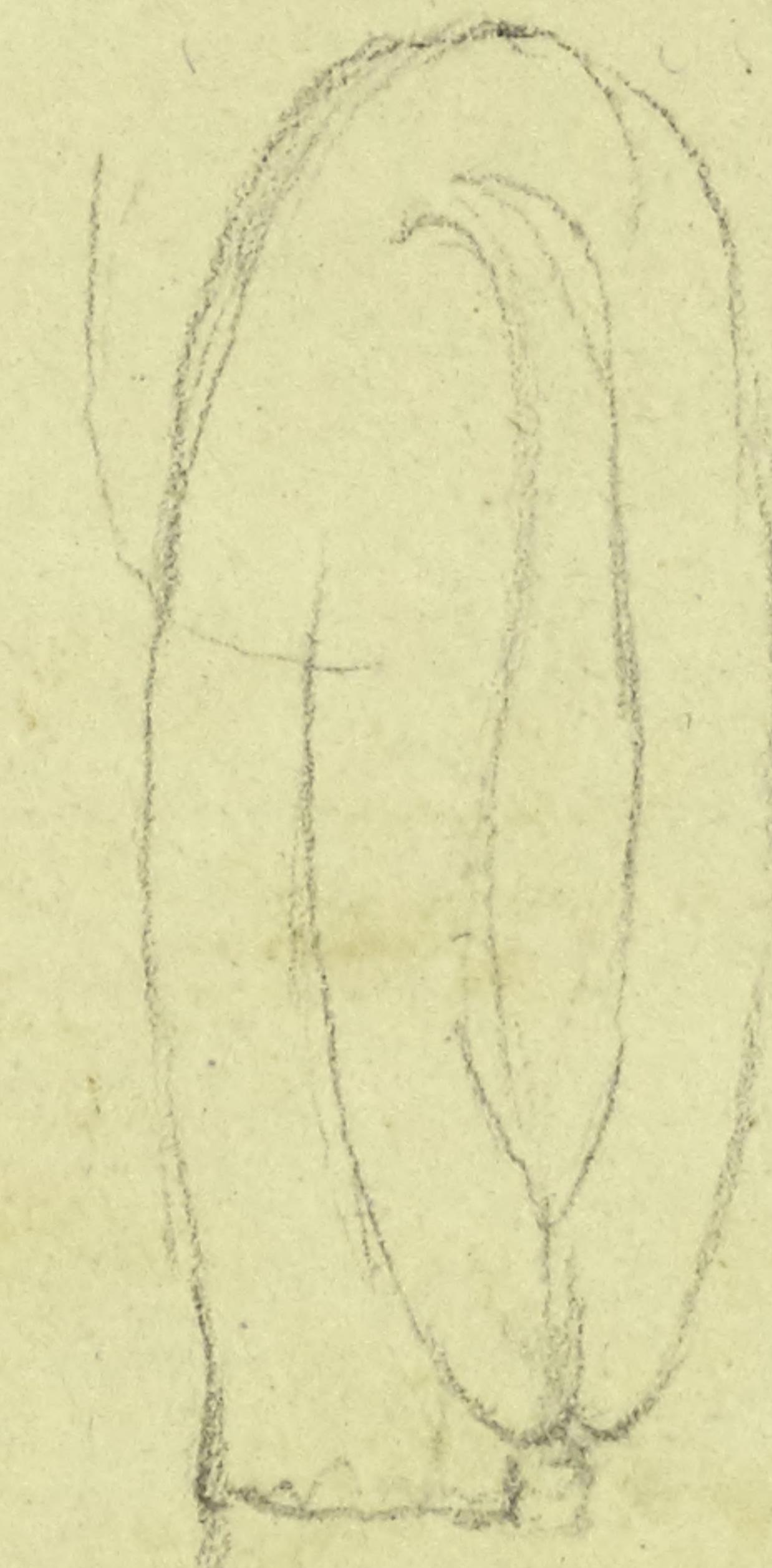
$\times 412$



$\times 30$



$\times 60$



$\times 135$

ovulum 0.14 lines

pollangnus 0.020
almost all of them fertile



(a)

(b)

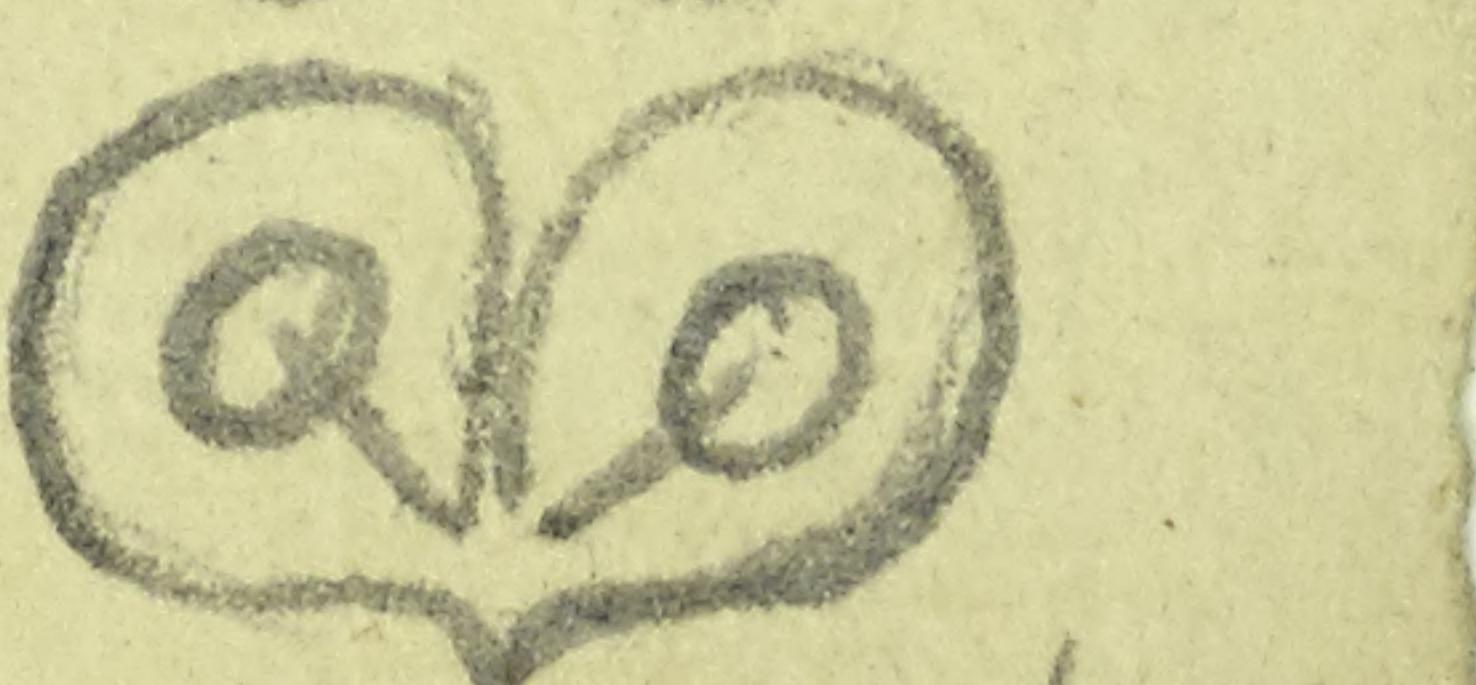
(c)

different representation of
ovule lobes

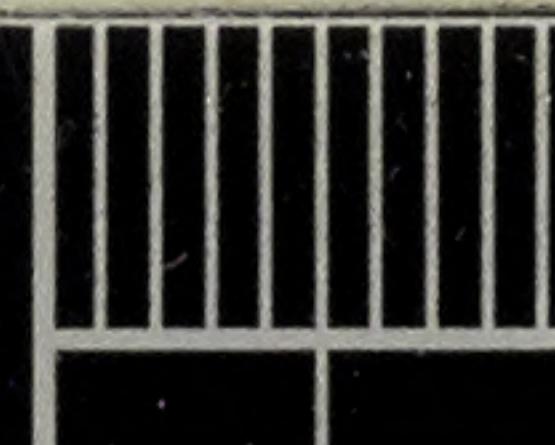
ovary
probably



ant.



posterior



0 1 2 3 4 5 6 7 8 9 10
cm

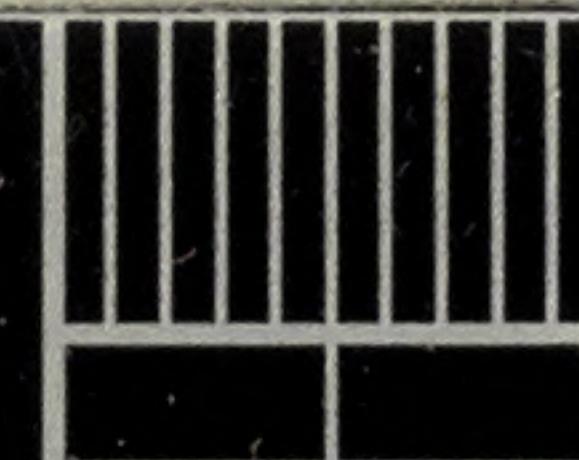
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0 1 2 3 4 5 6 7 8 9 10
cm

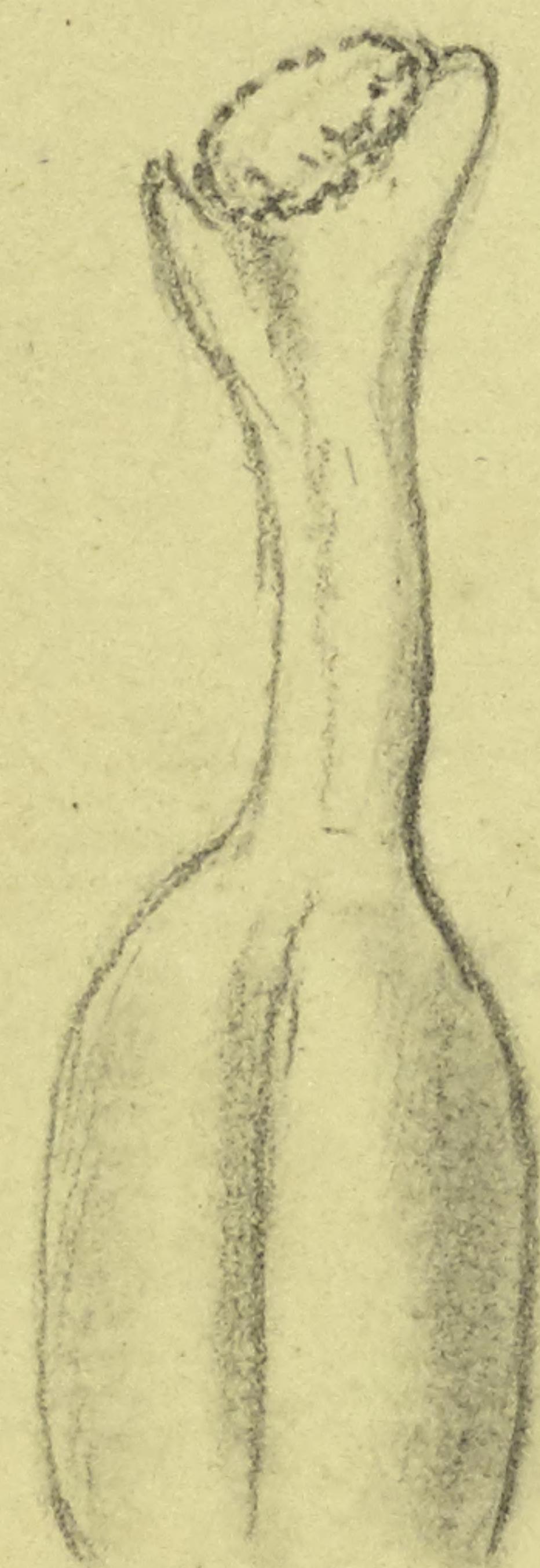
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Aug. 1859
x 30

Verben Biastis

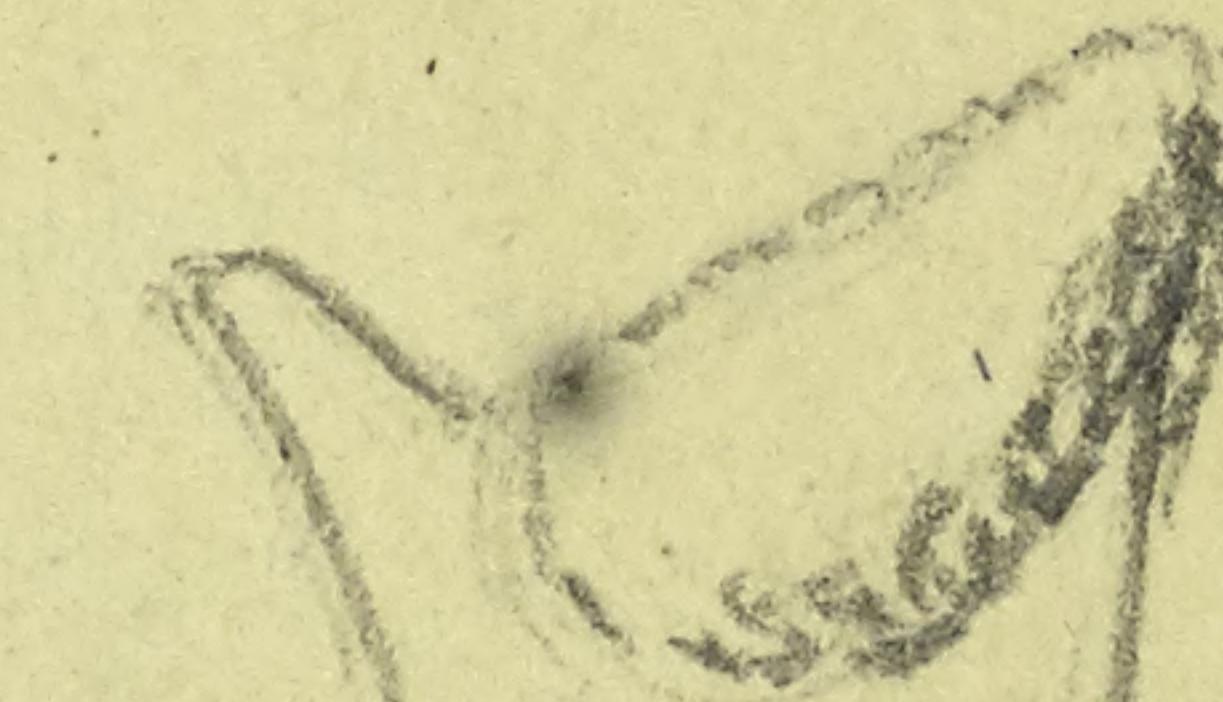
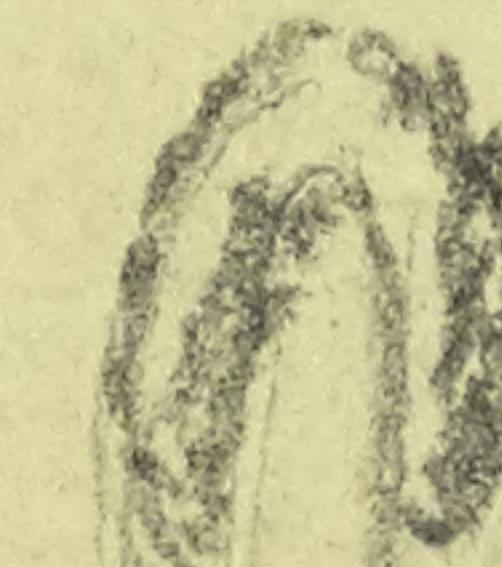


x 60



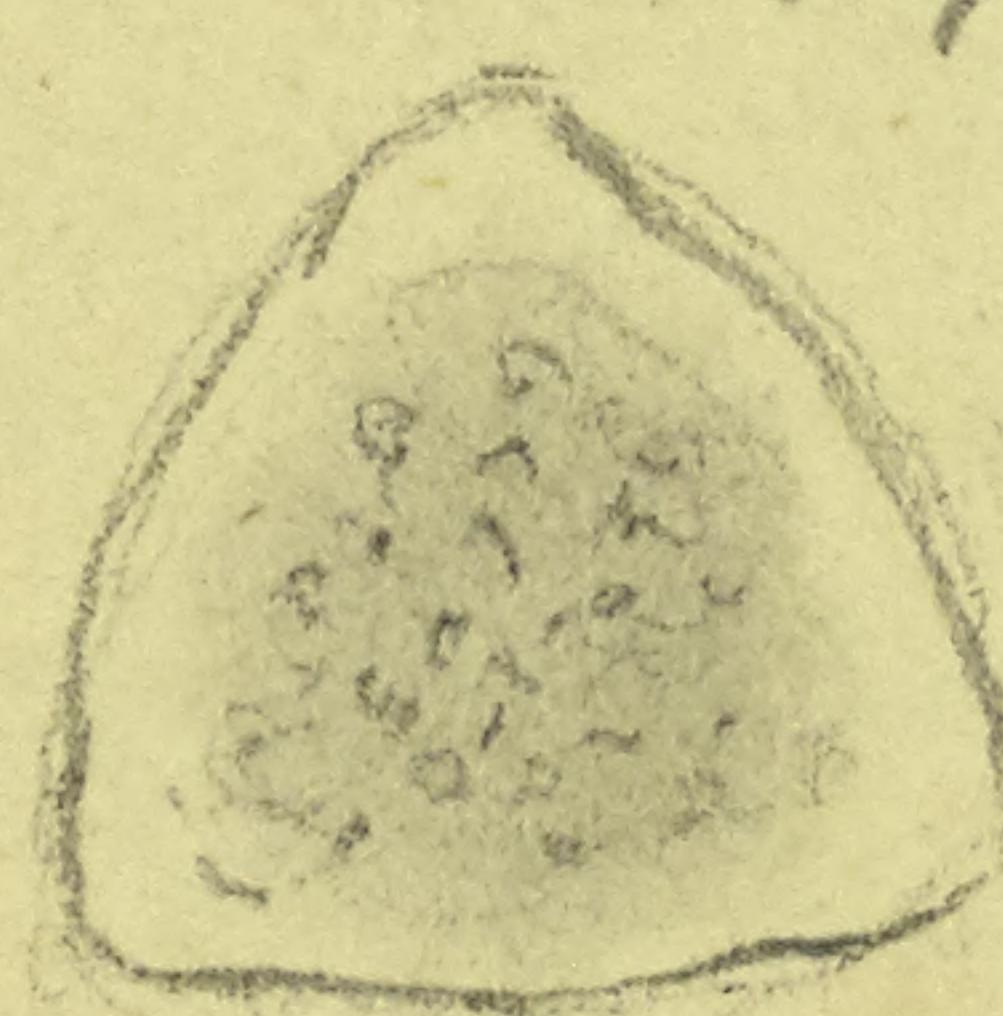
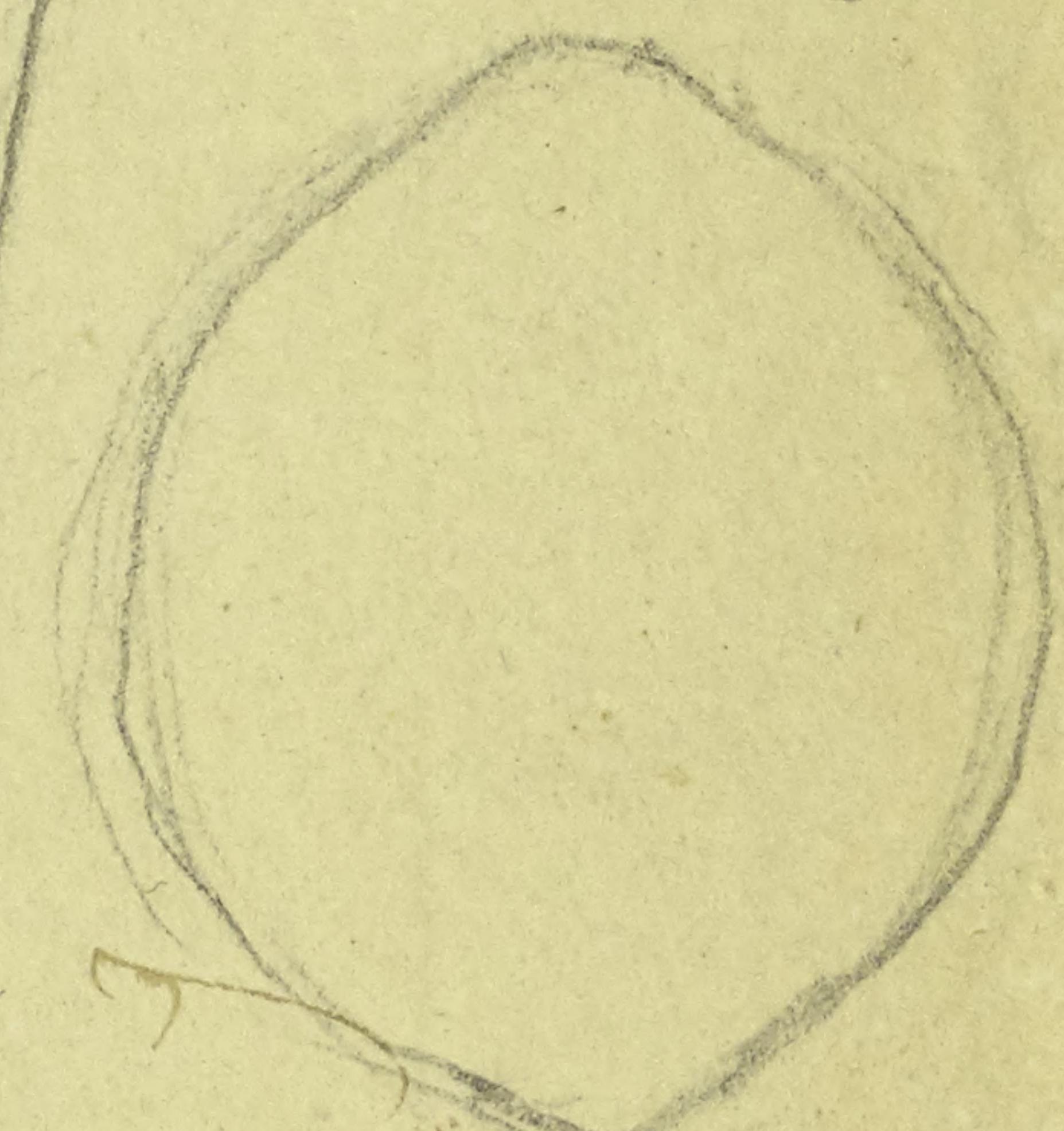
ave 0.18 in

x 135




stigma of
V. melindris

x 412

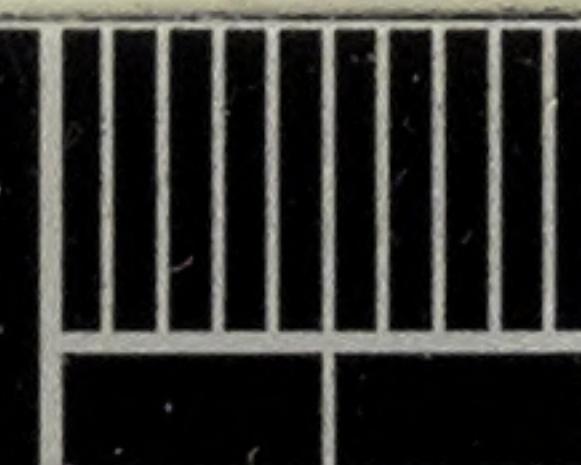


0.18

x 412



Pollm. 38



0 1 2 3 4 5 6 7 8 9 10

cm

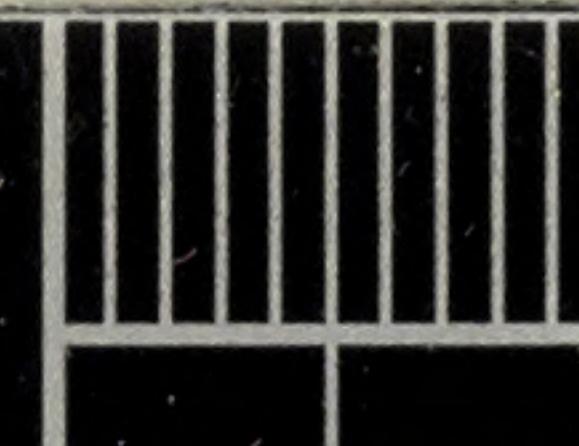
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0 1 2 3 4 5 6 7 8 9 10
cm

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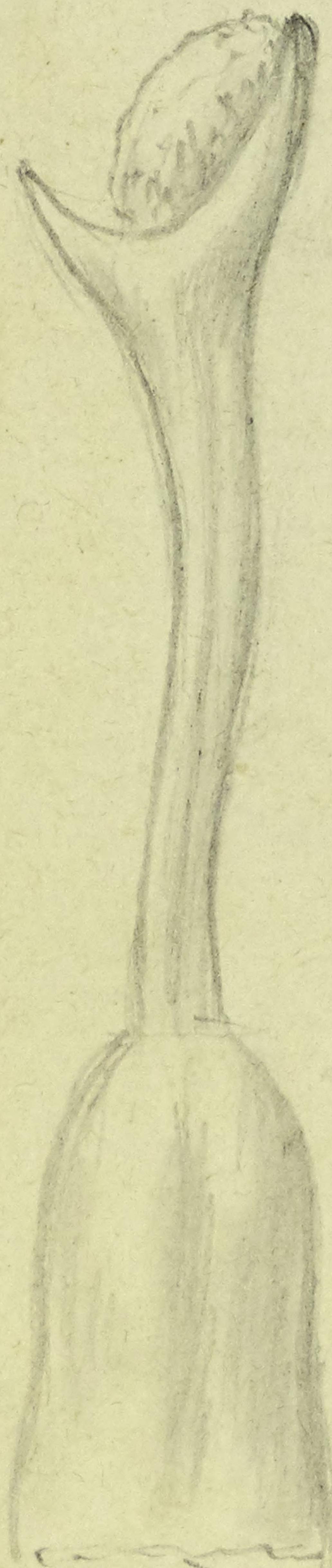
Aug. 1860

V. paniculata - striata

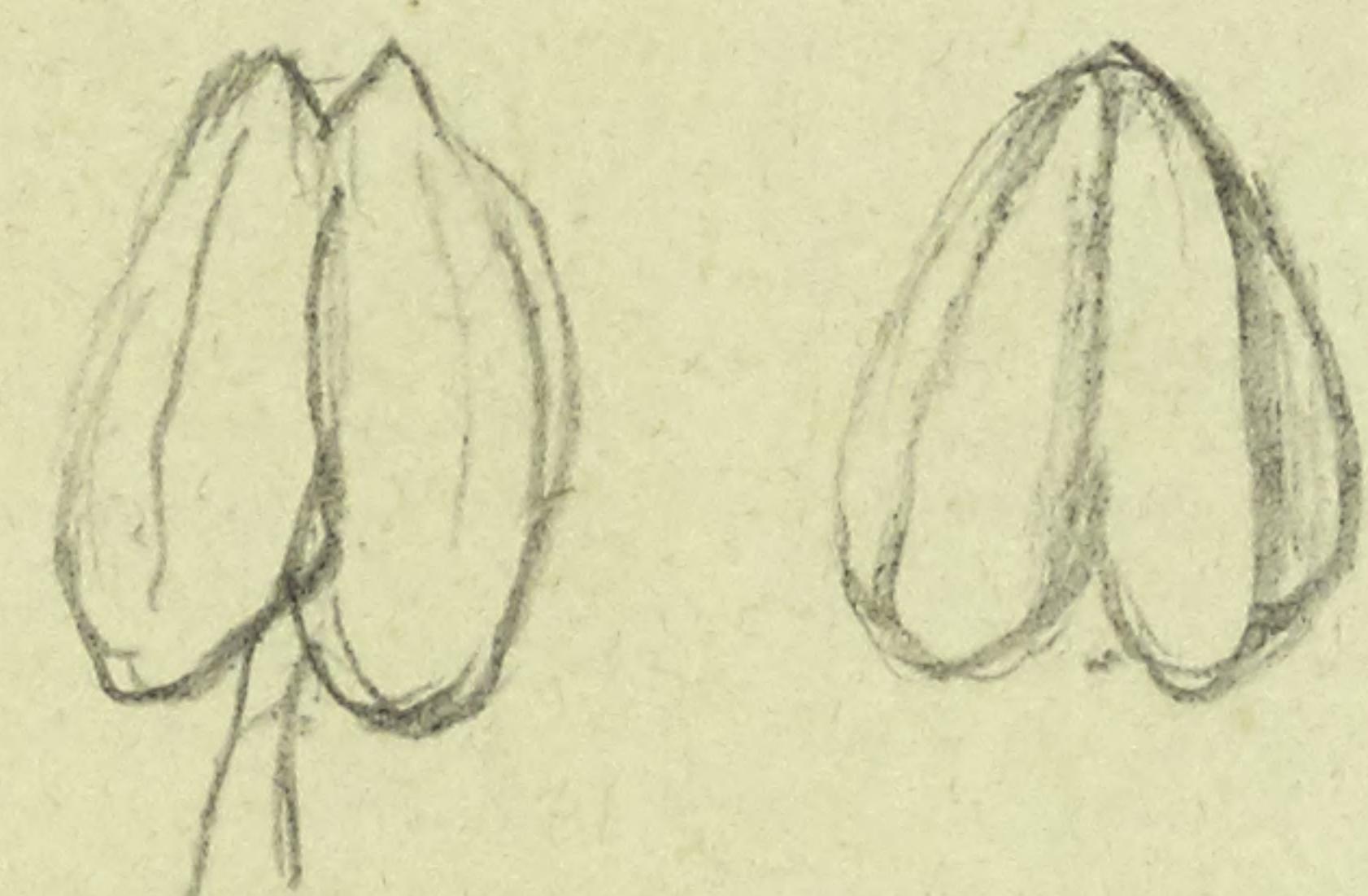
folius rosic serratis

Ridge Road Aug 13th

×30



×30



empty anthers
about $\frac{1}{5}$ in long

no perfect pollen seen nor any pollen at all!
tube of corolla pubescent inside below naked above
closed by whitish hair. Limb pubescent
near faint.

seeds not few, generally
only 1 developed, curved
etc



0 1 2 3 4 5 6 7 8 9 10
cm

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M. W. ALEXANDER,
SOUTH-EAST CORNER OF FOURTH AND MARKET STREETS,
ST. LOUIS.

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GARDEN

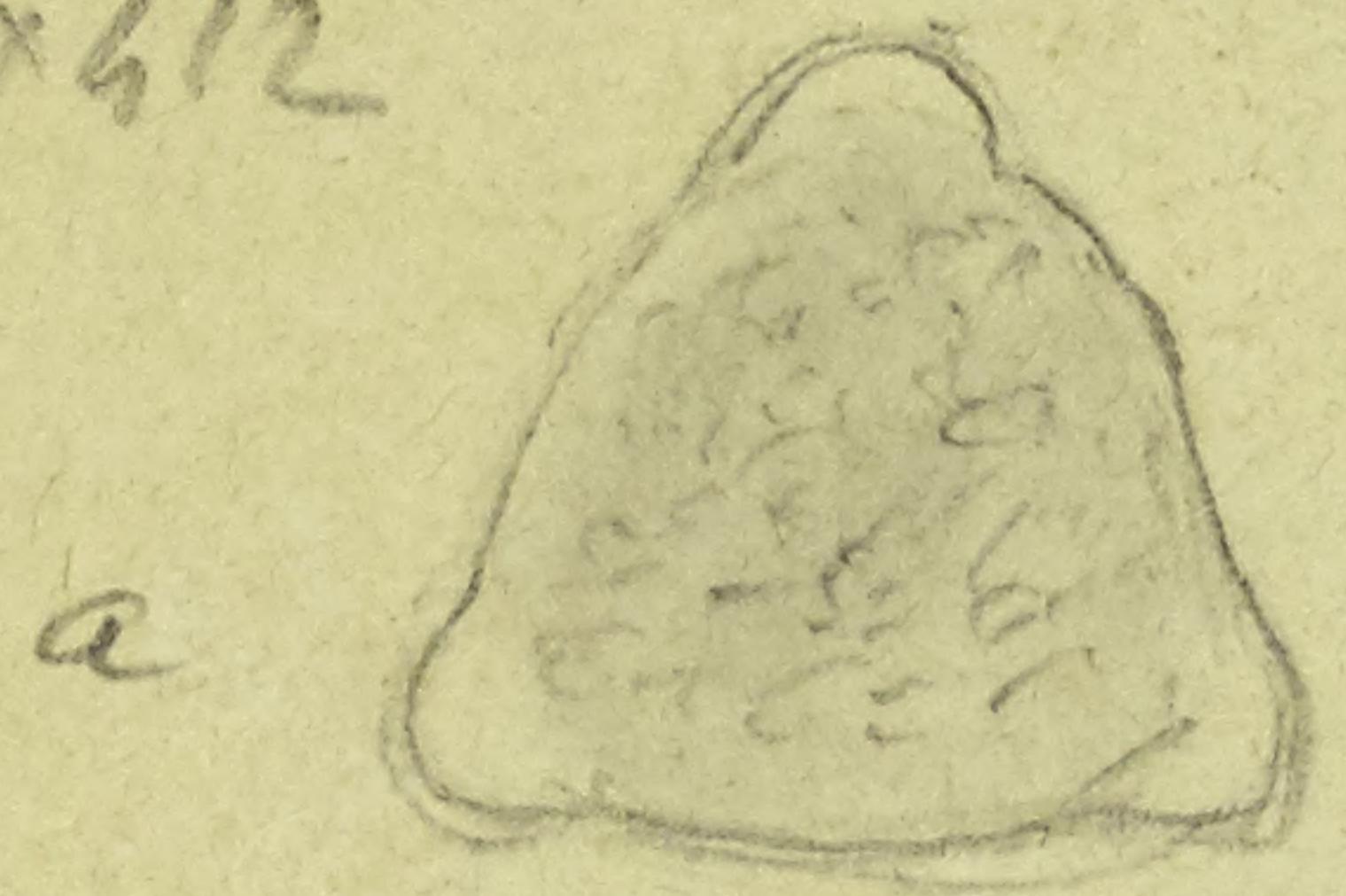
Verbena bracteosa - stricta

Aug 10 1861

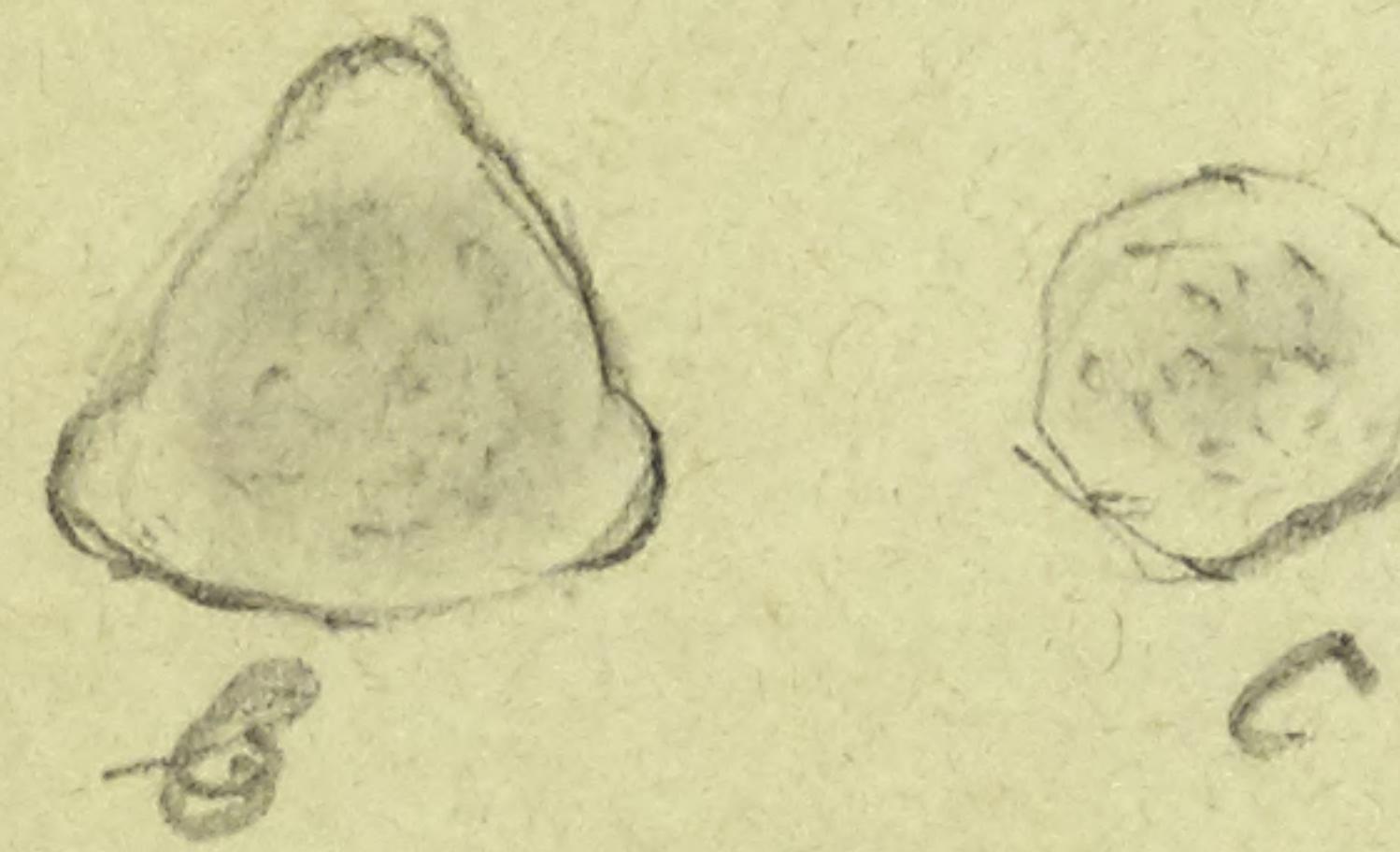
Flowers 8" l. long

ovolla when fully open 7" l. long and 5" - 5½" wide, tube slightly curved
anthers insinuate a little below the white beard & closing the face

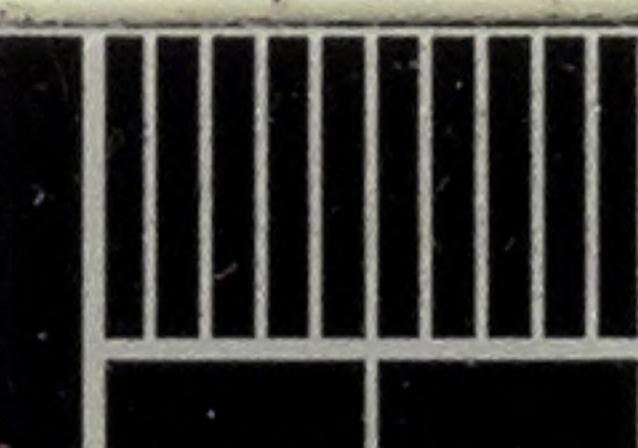
x612



x412



- a. many pollen grains perfect
- b. others rounded,
- c. many others incomplete



0 1 2 3 4 5 6 7 8 9 10
cm

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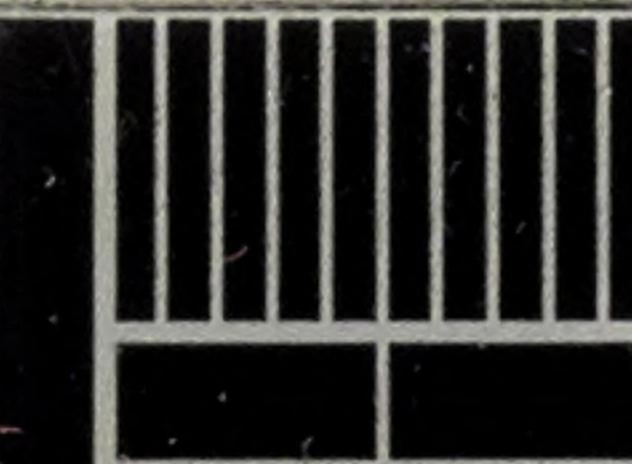


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SOUTH-EAST CORNER FOURTH AND MARKET STREETS,
ST. LOUIS.

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0
cm

1 2 3 4 5 6 7 8 9 10

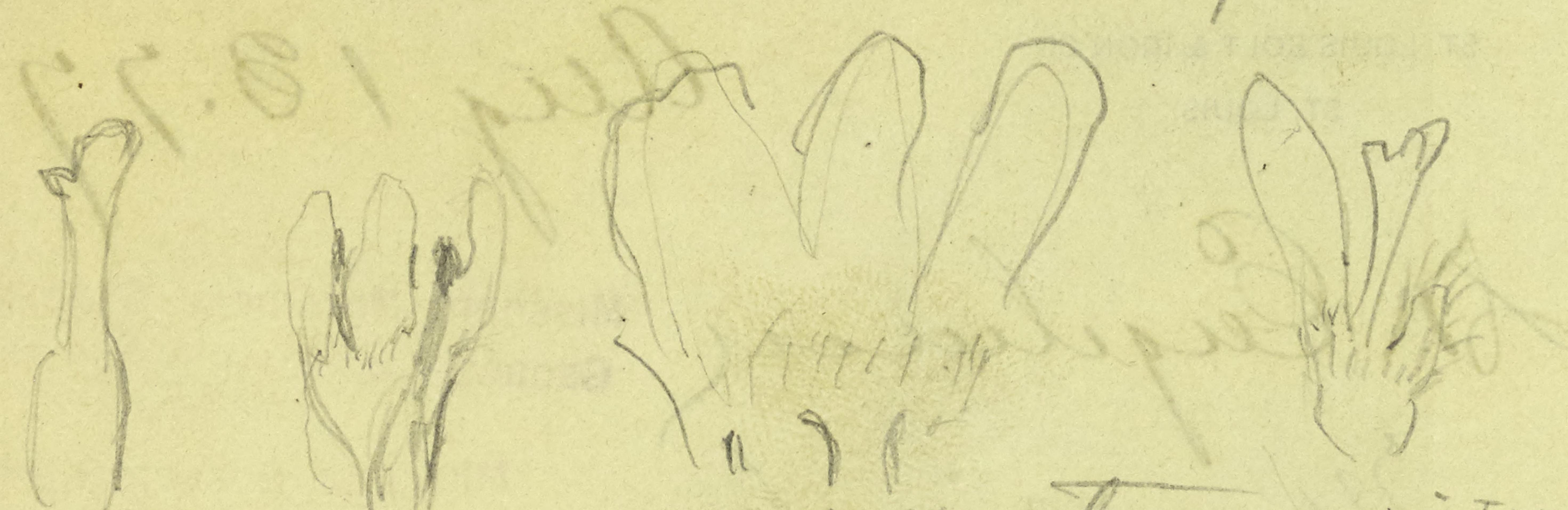
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Aug 14th 1877

Verbena stricta x *verbena*



normal

northern
not uncommon
plant! ^{abruptly pointed}
very common
metabolism!

also live stems with
sometimes off no trace of the
the mother plant and once
related carmine have the
heart of the leaf et
brown



0 1 2 3 4 5 6 7 8 9 10

cm

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ST. LOUIS BOLT & IRON CO.

ST. LOUIS.

4275

Aug 18. 77

Dr Engelmann

My dear Sir

Enclosed please

With best regards to all



0 1 2 3 4 5 6 7 8 9 10

cm

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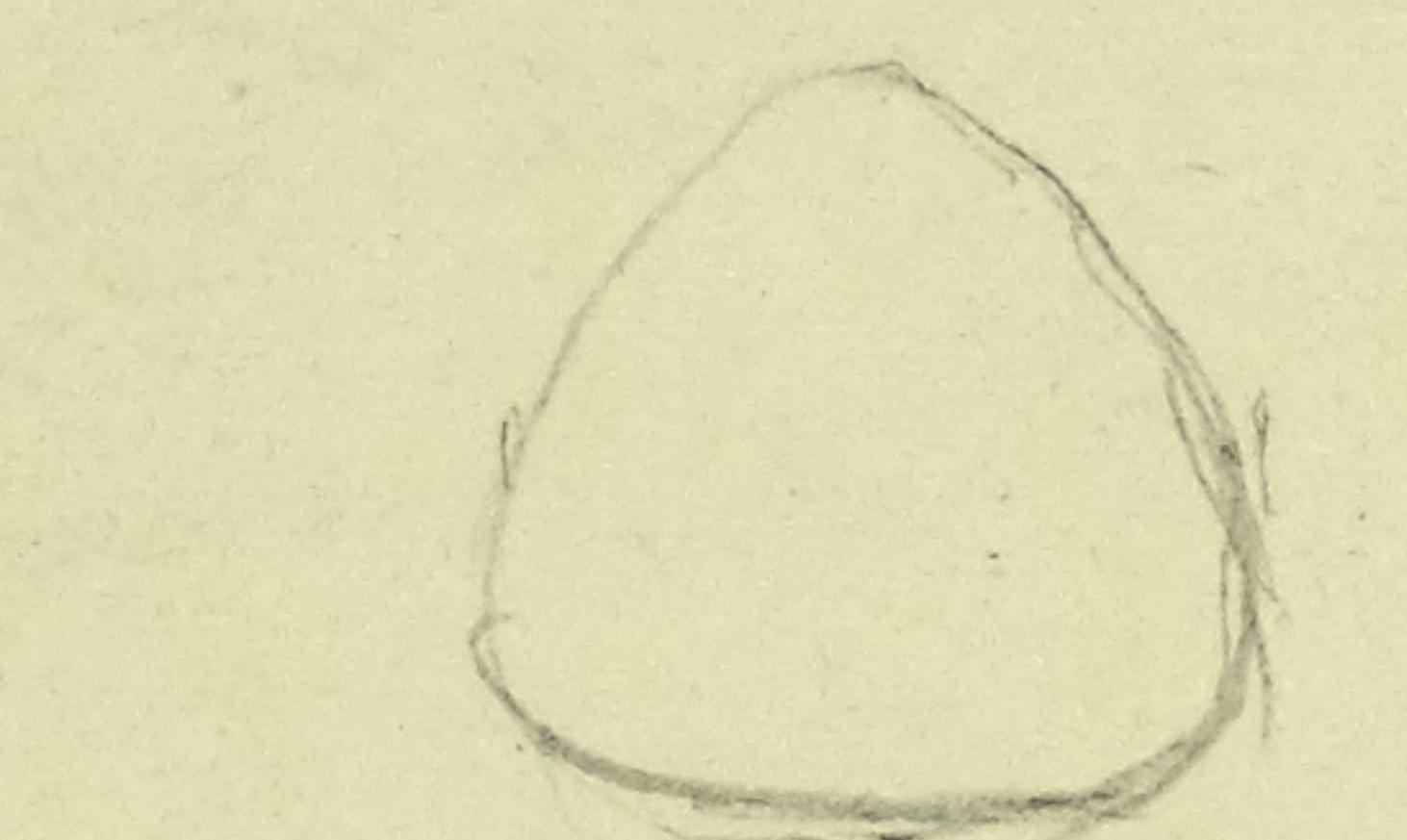


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western

20 Aug 1877

YAHWEH TSIMMIM



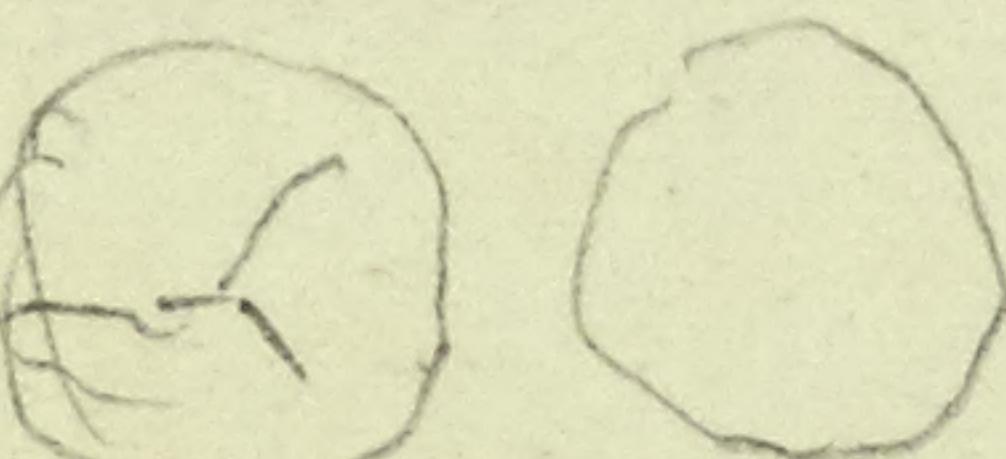
$$\frac{14}{415} = 0.034 \text{ mm}$$

v. stricta x umbrofolia



$$\frac{16.5}{415} = 0.040$$

v. paniculata

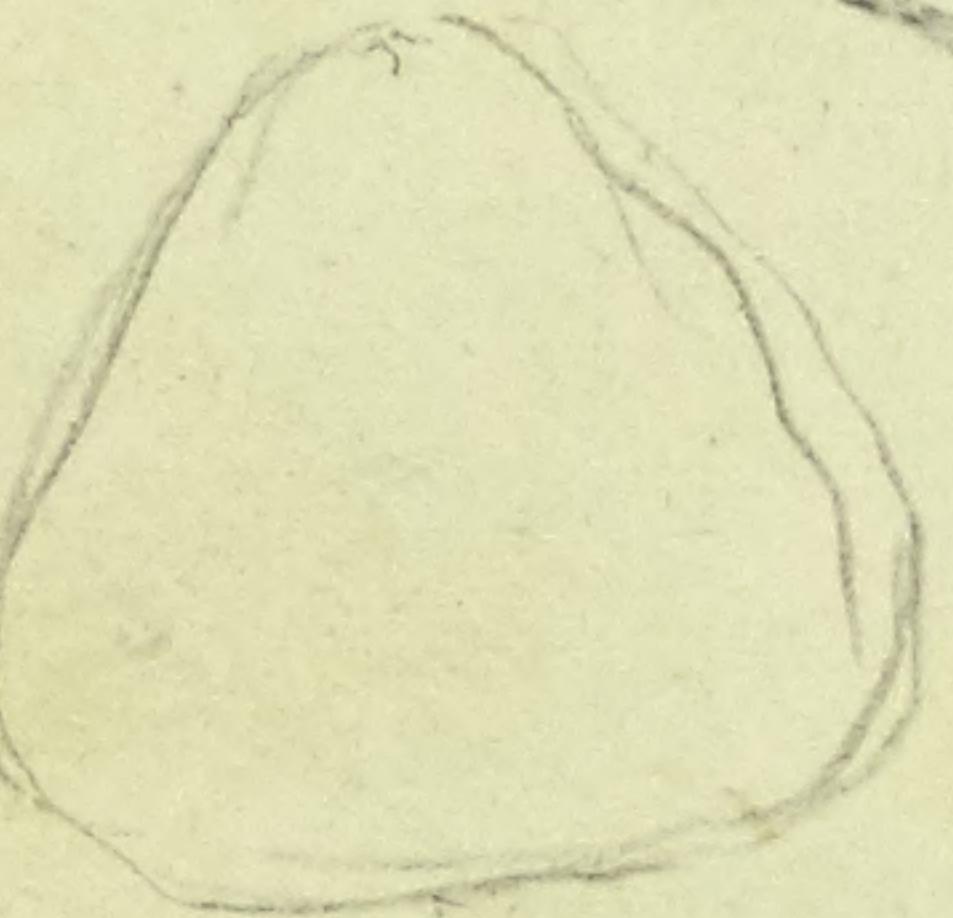


v. stricta x umbrofolia

near stricta

no good pollen

but some



v. stricta x umbrofolia

isiformis

some good pollen

B

more seeds, 3 or 4 together
more differences between varieties on this

2. M. Gov. New York
DUNGEON AND CHENWELL



0
cm

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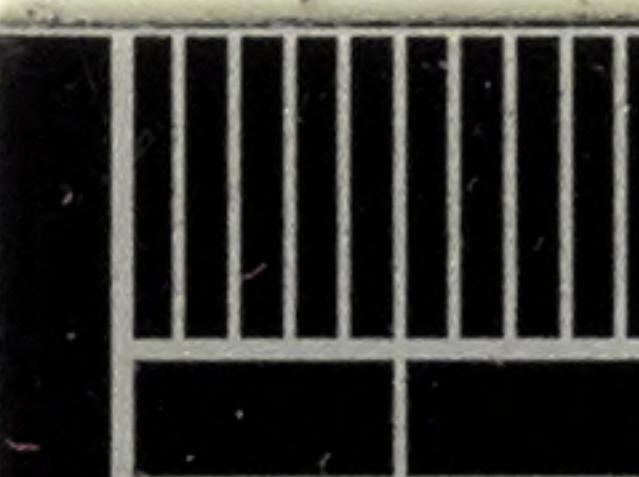
JNO. S. HEALY,
DRUGGIST AND CHEMIST,
S. W. Cor 5th and Myrtle Sts.

Spuibbs' Preparations constantly on hand.

Ry

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0 1 2 3 4 5 6 7 8 9 10

cm

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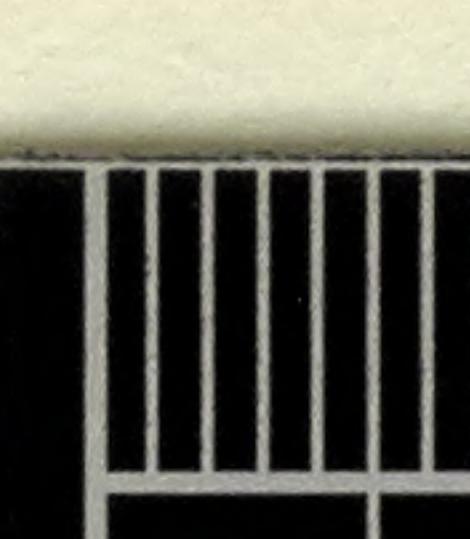
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Verbena stricta angustifolia
panniculata
verticifolia
bracteosa
angustifolia stricta
panniculata
verticifolia
bracteosa
panniculata stricta
angustifolia
verticifolia
bracteosa
verticifolia stricta
angustifolia
panniculata
bracteosa
bracteosa stricta
panniculata
verticifolia
angustifolia

24 / 025
15 DB / 1511

1875
Wm. Johnson
G. W. Sawyer

11 Aug
22nd mon
21. 70
wear
Bonton 491
ee



5

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1

100

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A decorative floral emblem, possibly a stylized rose or lotus, is positioned on the right edge of the page, partially cut off by the margin. It is rendered in a light color against a dark background.

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Vorizsuta Clark. Künft. Crinum.

Helleborus niger.

Öfmar zu Nißmünz.

Blatt unist 2 blüsig, fast nackt; Blätter füßförmig.

Zenya, Tschiliung, Moralya.

März, April. 4.

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cm

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Verbena stricta - Benthon - December
leaves large, serrate, or crenately
bordered, subpetiolate, with very
prominent ribs below; spikes
fewer, compact. Bracts hardly
longer than the rachis - ^{or} only
very similar to that of *V. br.*
and same shape & size, but
very hairy outside (nearly smooth
in *V. br.*) Seeds apparently
parallel the = with parents

Ridge prairie Jb. 1867



0 1 2 3 4 5 6 7 8 9 10
cm

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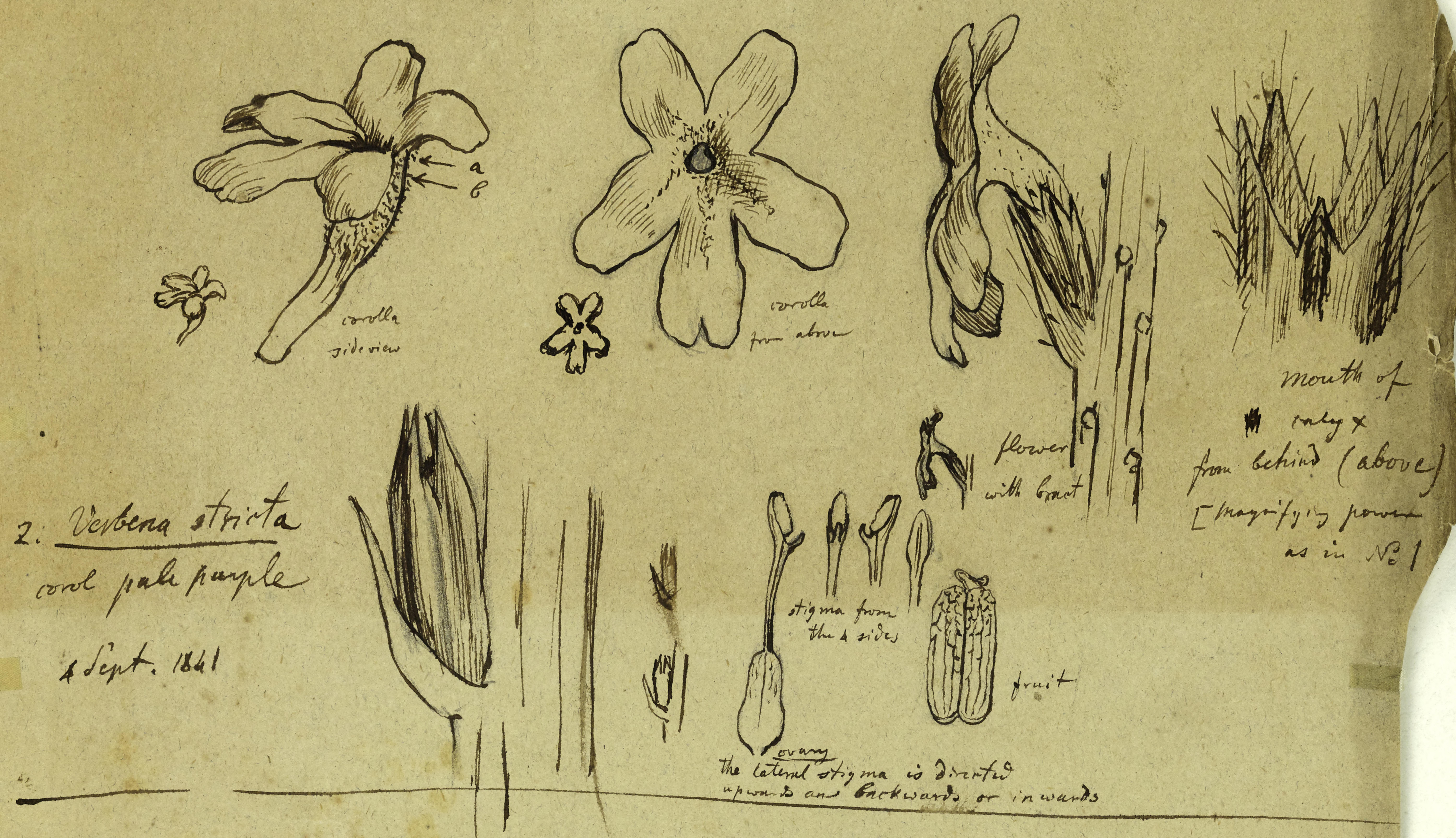
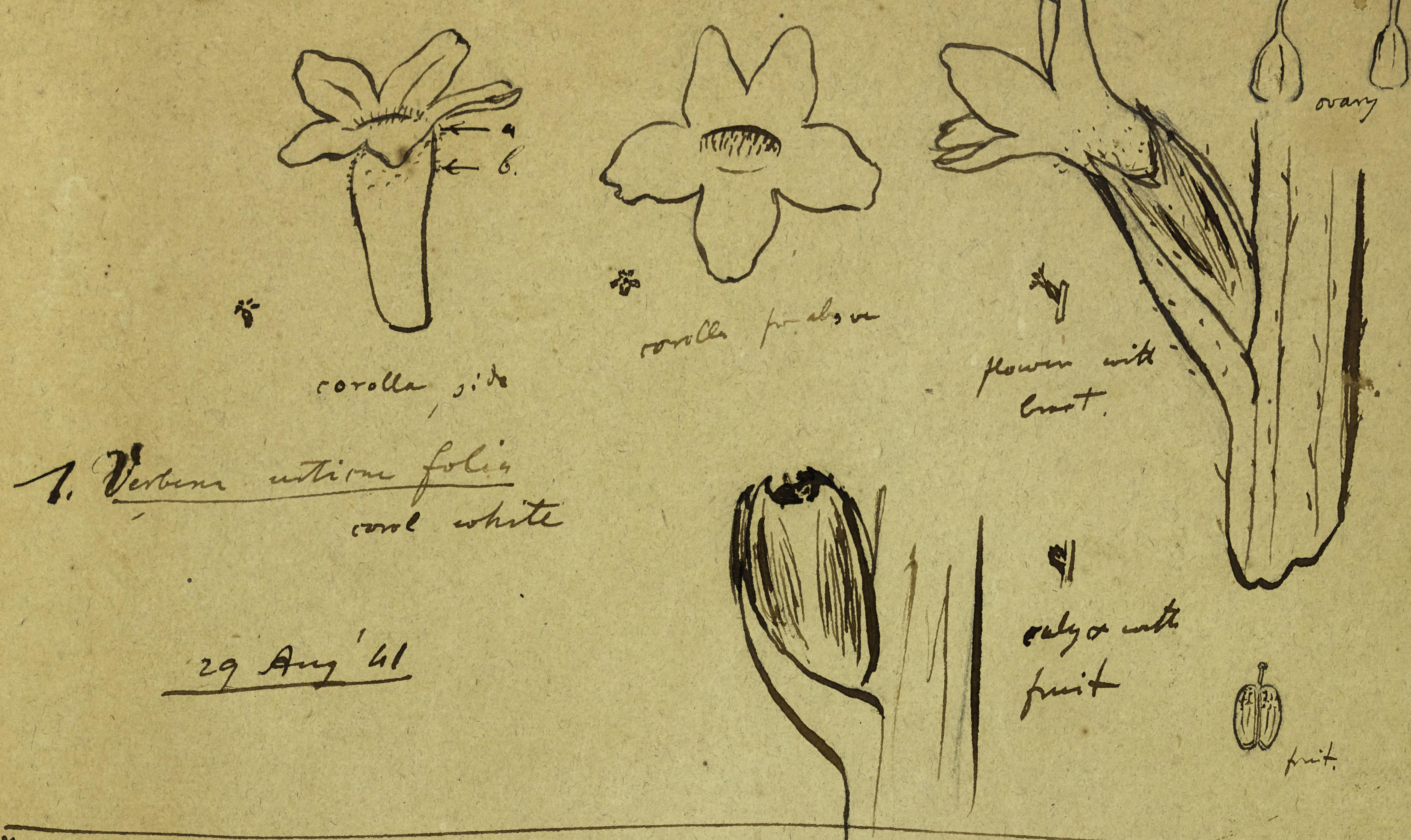
0 1 2 3 4 5 6 7 8 9 10
cm

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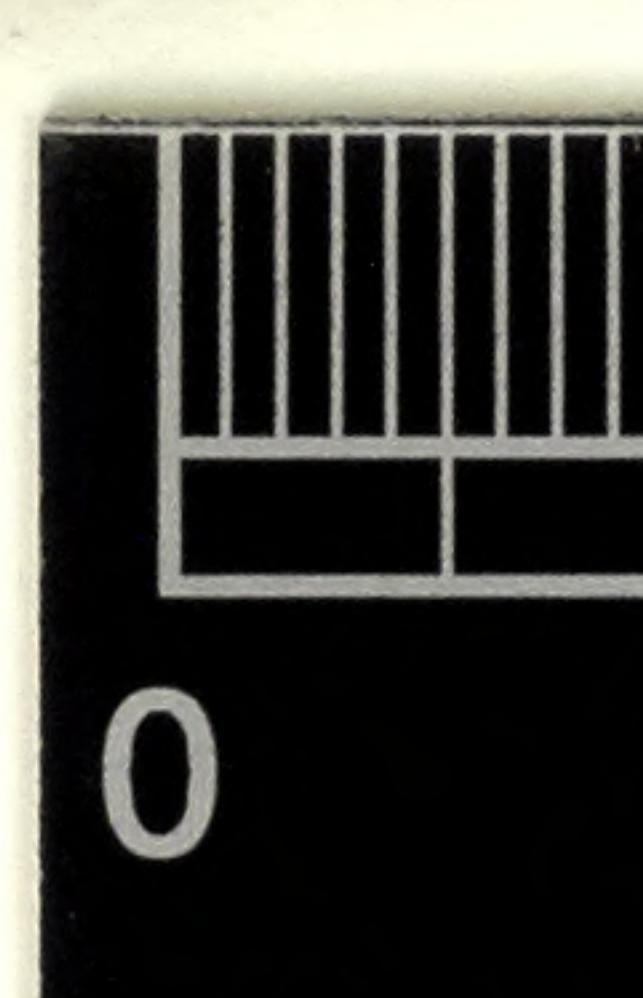


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Verbena



Grass of Chontzani's Pond

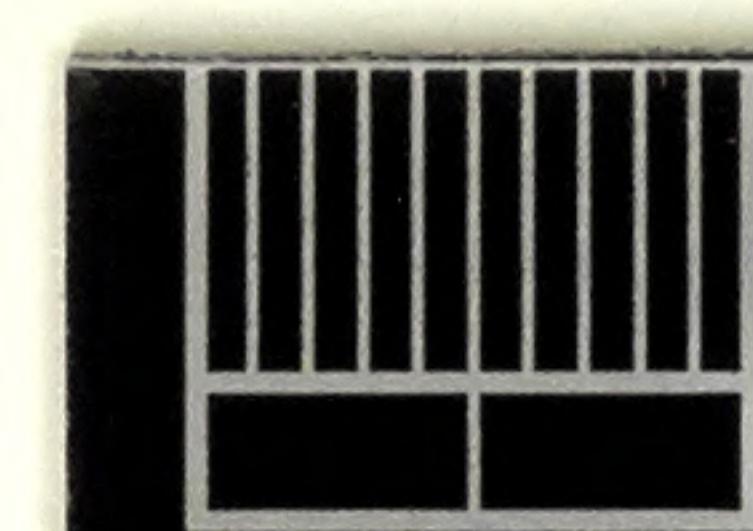


0 1 2 3 4 5 6 7 8 9 10

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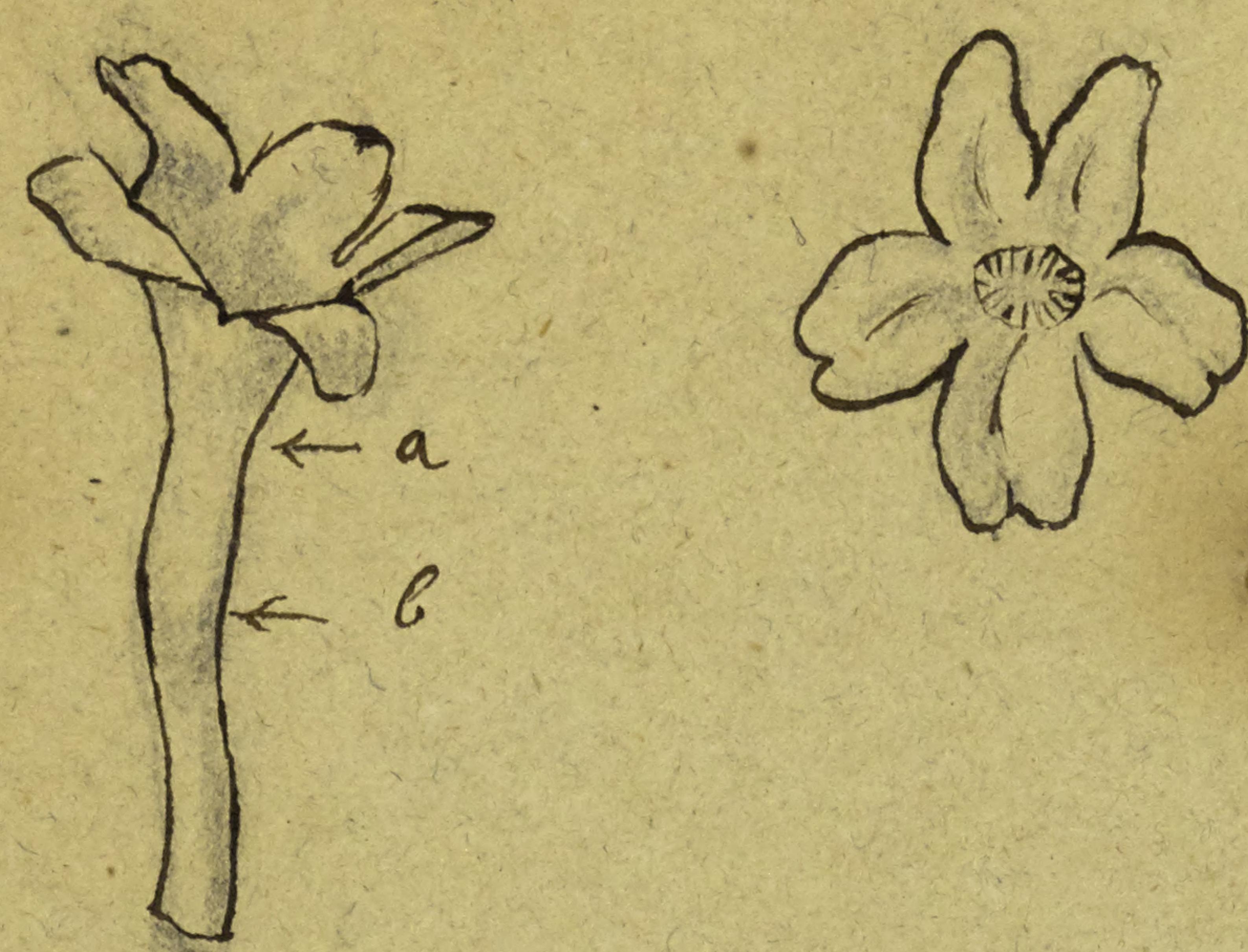
0
cm

1 2 3 4 5 6 7 8 9 10

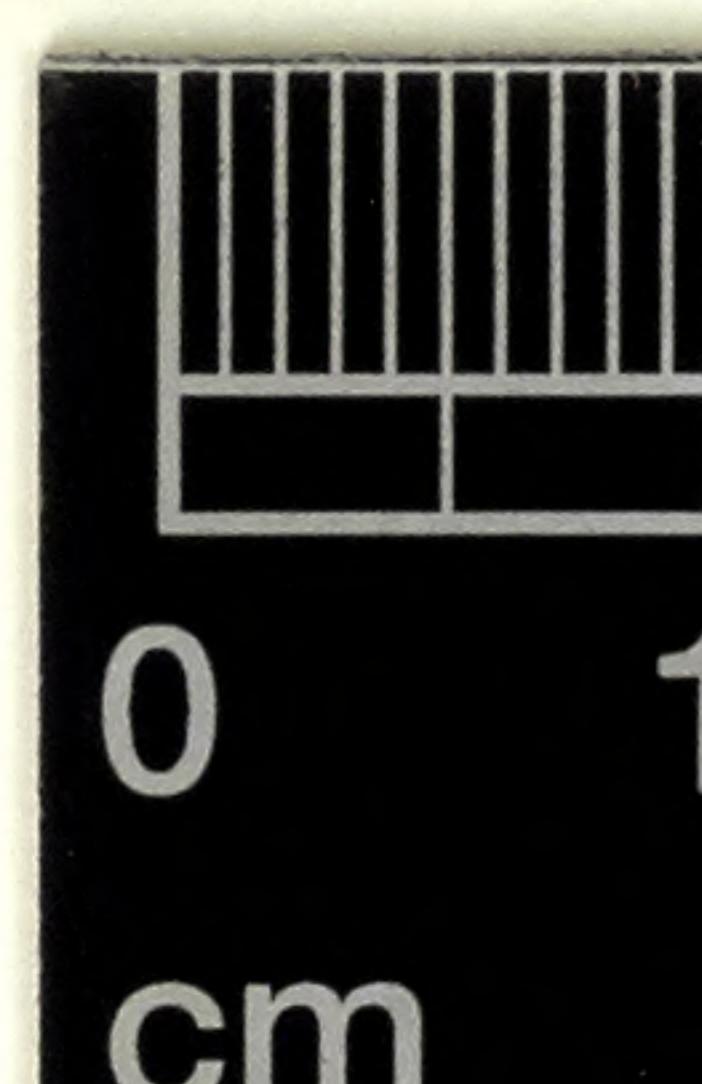
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A. Verbena Bracteosa



0 1 2 3 4 5 6 7 8 9 10

cm

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Phlox undulata Ait.

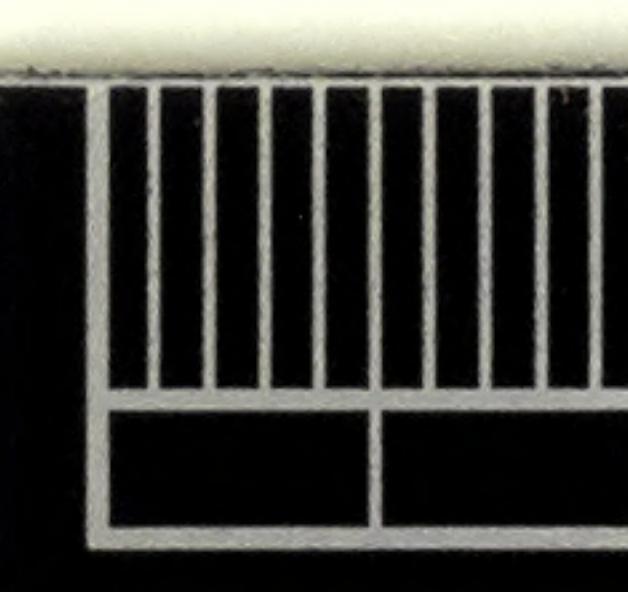
Sp. I, 624

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4280

Carolina

H.B Fr. 1824



0
cm

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